

TCS Digital – 7th August

Day 1 Slot 1

Quants

Question 1:

A sum of Rs 7500 amounts to Rs 9075 at 10% p.a in a certain time, when the interest is compounding annually. What is the amount in (Rs) of the sum at the same sum at the same rate for $\frac{6}{5}$ th of the earlier time.

- a. 9412
- b. 9438
- c. 9680
- d. 9580

Answer:

9438

Question 2:

The average weight of some students in class is 62kg. If 8 students of average weight 55kg leave the class and 13 students of average weight 65 kg joins the class, then the average weight of remaining students in the class is 63.9 kg. The number of students in the class initially was?

- a. 45
- b. 55
- c. 40
- d. 50

Answer:

45

Question 3:

Ramesh can complete a work in 20 days. Mohan is 66.67% as efficient as Ramesh. Mohan and Ramesh work together. Ramesh leaves after working for some days. The remaining work is done by Mohan in 10 days. After how many days did Ramesh leave the work?

- a) 10 days
- b) 6.5 days
- c) 8.5 days

d) 8 days

Answer:

8 days

Question 4:

When a number x is divided by 9, the remainder is 6. When the same number is divided by 21, the remainder is 12. If the x lies between 250 and 450, then what is the sum of all possible values of x .

- a. 1107
- b. 855
- c. 1044
- d. 666

Answer:

855

Question 5:

A bag contains $x+5$ yellow balls, $2x+1$ blue balls and some red balls. If two balls are drawn one after another from the bag without replacement, then the probability of getting a red and blue ball is $\frac{1}{4}$. The total balls in the bag is $4(x+2)$. Find the number of red balls.

- a. 8
- b. 4
- c. 6
- d. 5

Answer:

5

Question 6:

The taxi charges in a city consist of a fixed charge together with the fixed charge for the distance travelled in kilometers. When a person travels 72 km he pays 1107. He pays Rs. 898 for travelling 55 km. What will he have to pay for travelling 45 km?

- a. Rs. 826
- b. Rs. 740
- c. Rs. 693
- d. Rs. 738

Answer:

Rs. 738

Question 7:

C can complete the work alone in 60 days. A and B take 40% and 75% more time than C. The work was started by A and B, and C worked with A on every third day, In how many day the work will be completed.

- a. $16\frac{4}{5}$
- b. $48\frac{1}{4}$
- c. $16\frac{1}{4}$
- d. $48\frac{4}{5}$

Answer:

$$\underline{48\frac{4}{5}}$$

Question 8:

A and B start from the same point and cover equal distances. A travels by car and covers the distance in 3 hours with a speed of 50 km/h. The B travels by bus which stops for 10 mins after covering 10 kms. In how much time will the bus reach the destination if the speed of the bus is 40% less than the speed of the car?

- a. 6 h 40 min
- b. 7 h
- c. 7 h 30 min
- d. 7 h 20 min

Answer:

7h 20 minutes

Question 9:

A sum when lent at the rate of 1.5% p.a.simple interest for x years amounted to 17,600.When the same sum was lent at the rate of 18% p.a. The Simple interest for (x+2.5) years, it amounted for 24,320. The value of x and the sum, respectively are

- a. 2.5 and 12500
- b. 2.5 and 12800
- c. 2 and 12500
- d. 3.5 and 12800

Answer:

2.5 and 12800

Question 10

Raj sold his bat at $x\%$ profit after giving a discount of $x\%$. The marked price was Rs. 2,400 more than the cost price. And the selling price was Rs. 900 more than the cost price. Find the value of $4x$.

- a. 100
- b. 50
- c. 40
- d. 200

Answer:

100

Question 11:

A and B started a business, where the investment of A was 40% of the total investment. B invested his sum for

4 months. The profit received by A was $\frac{4}{7}$ th of the total profit. Find the period of time of investment of A

- a. 6 months
- b. 4 months
- c. 8 months
- d. 12 months

Answer:

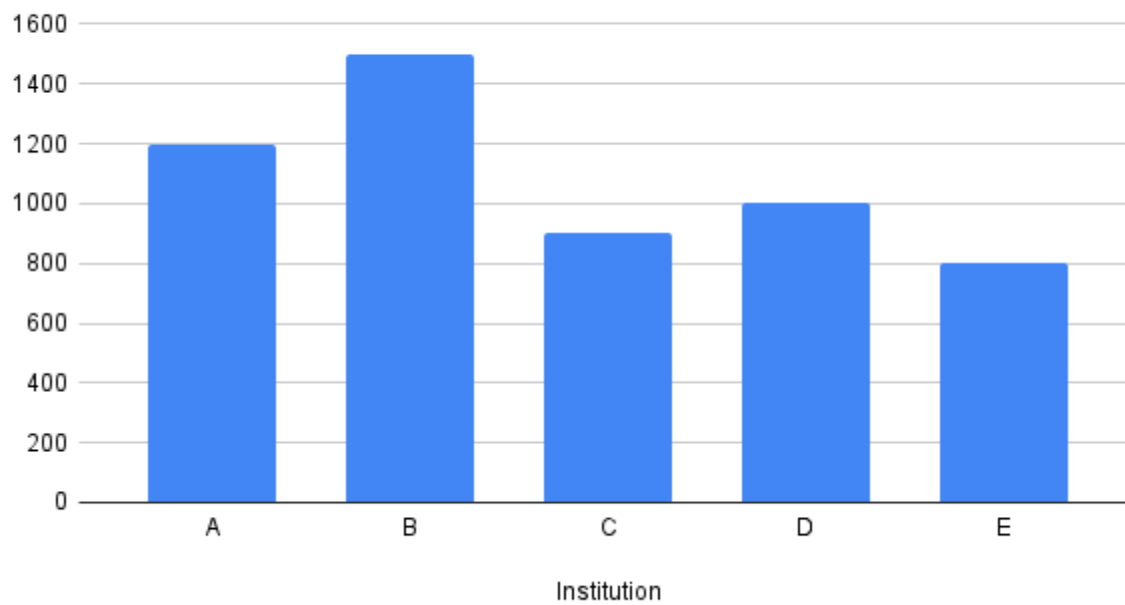
8 months

Question 12:

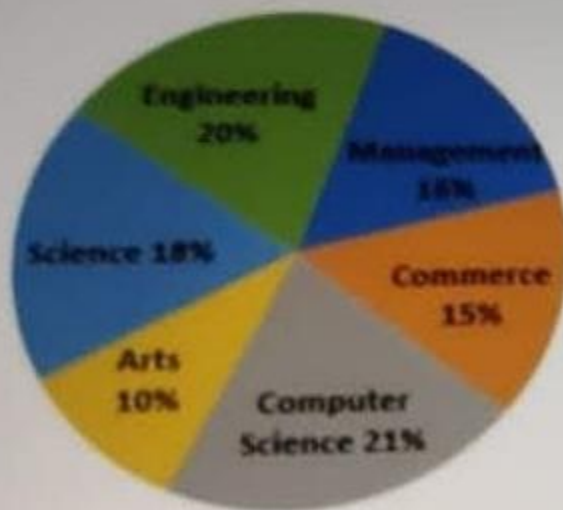
What is the ratio of total male students studying management in institute B and D to the total number of students studying engineering in institute A and E?

| Discipline | Ratio of male to female students |
|------------------|----------------------------------|
| Management | 5:3 |
| Engineering | 2:3 |
| Science | 7:11 |
| Arts | 3:2 |
| Computer Science | 10:11 |
| Commerce | 8:7 |

Number of students studying in five institutes A,B,C,D and E



Percentage wise distribution of students studying various disciplines in all the institutes



- a. 3:5
- b. 4:7
- c. 8:9
- d. 5:8

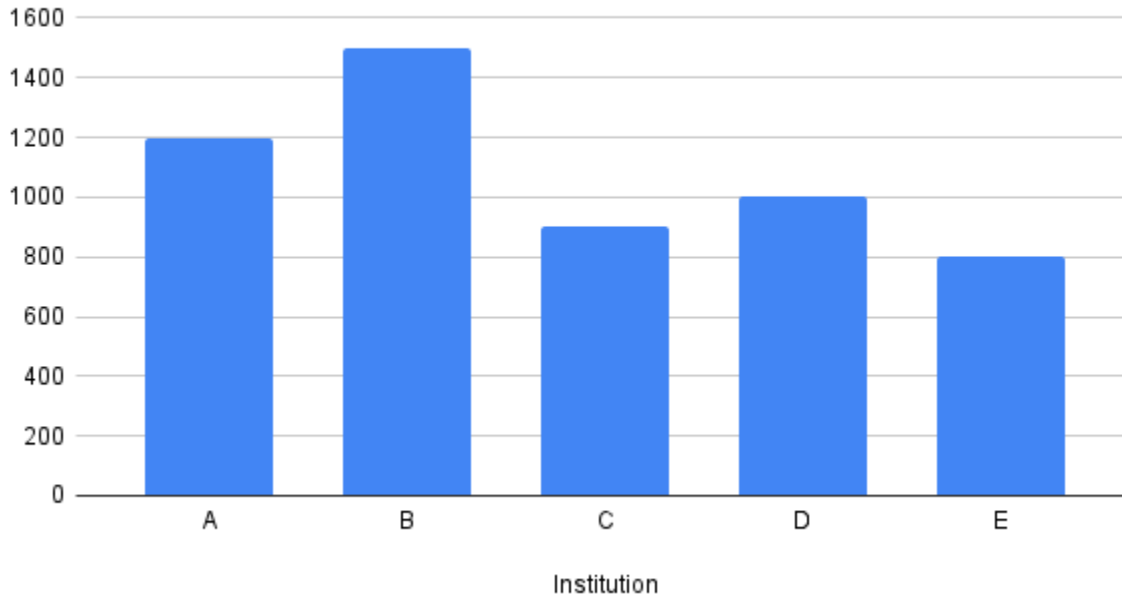
Answer:

5:8

Question 13:

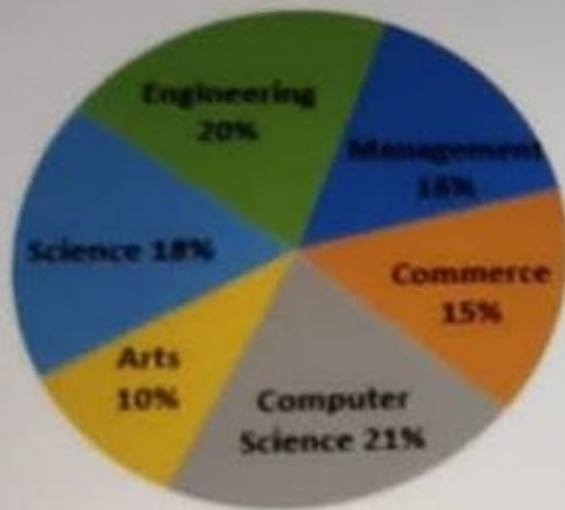
The total number of students studying Science in institutes A and D is approximately what percentage more than the total number of male students studying in commerce in institutes B,C and E ? (correct to one decimal point)

Number of students studying in five institutes A,B,C,D and E



| Discipline | Ratio of male to female students |
|------------------|----------------------------------|
| Management | 5:3 |
| Engineering | 2:3 |
| Science | 7:11 |
| Arts | 3:2 |
| Computer Science | 10:11 |
| Commerce | 8:7 |

Percentage wise distribution of students studying various disciplines in all the institutes



- a. 42.8%
- b. 54.7%
- c. 35.4%
- d. 48.6%

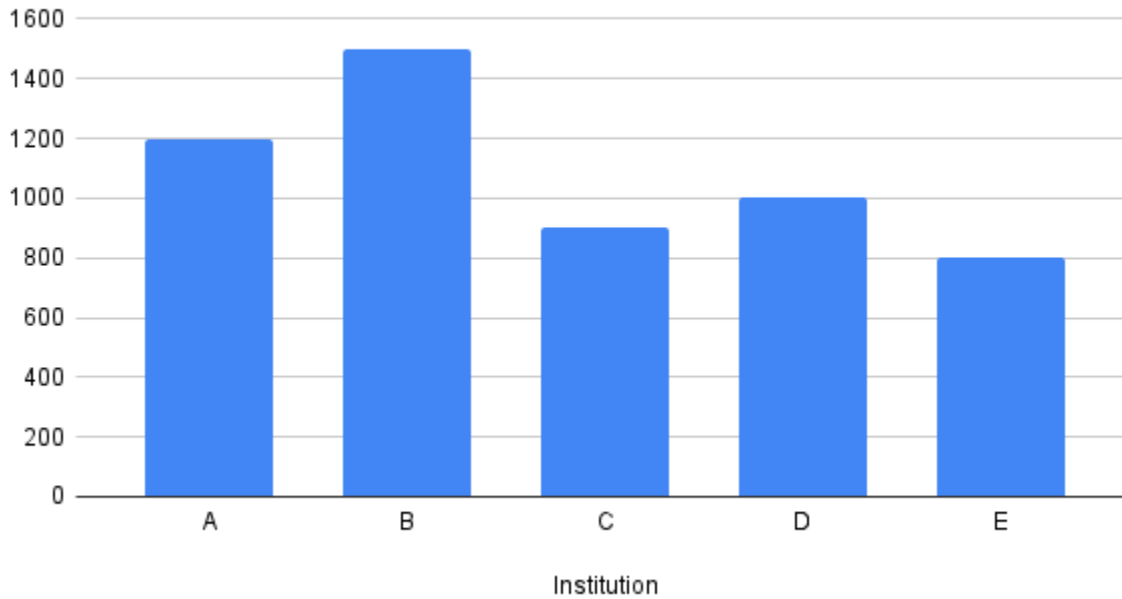
Answer:

54.7%

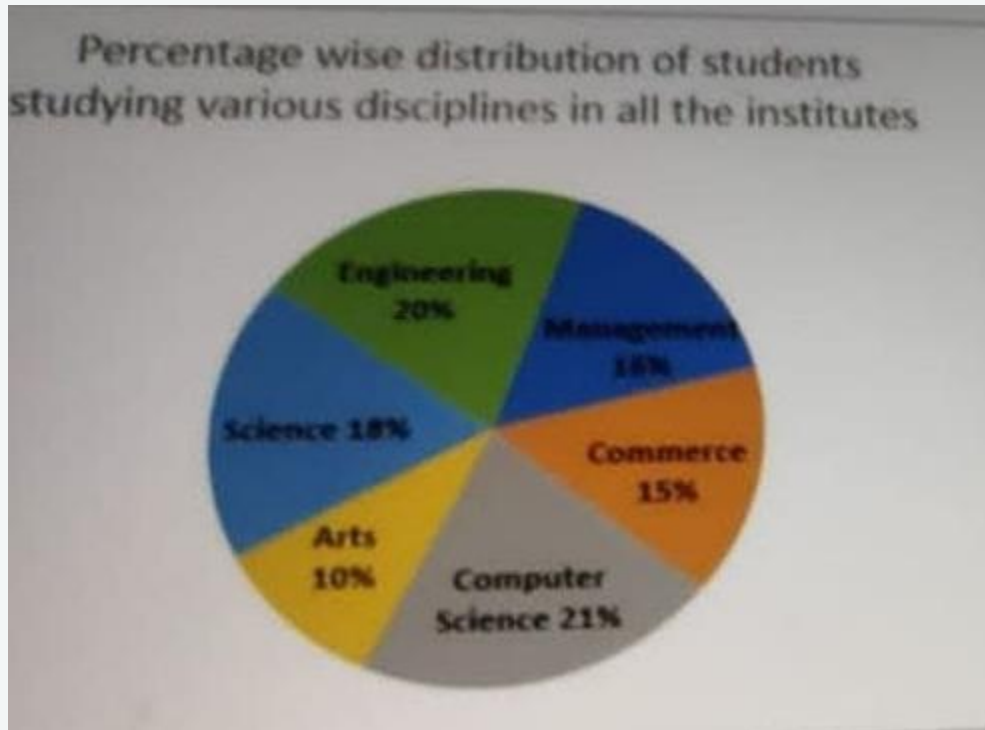
Question 14:

The total number of male students studying computer science in all five institutes is what percentage more than the number of female students studying engineering in institutes A,C, D and E (correct to one decimal place)?

Number of students studying in five institutes A,B,C,D and E



| Discipline | Ratio of male to female students |
|------------------|----------------------------------|
| Management | 5:3 |
| Engineering | 2:3 |
| Science | 7:11 |
| Arts | 3:2 |
| Computer Science | 10:11 |
| Commerce | 8:7 |



- a. 13.3%
- b. 14.6%
- c. 16.2%
- d. 15.4%

Answer:

15.4%

Verbal

Question 1:

Select the option that gives the most appropriate meaning of the underlined word

The prophetic qualities of the sooth sayer's speeches earned them a great position in the Roman empire

- a. Speculative
- b. Preventive
- c. Punitive
- d. Predictive

Answer
Predictive

Question 3

Which of the following will substantiate the doubts raised in the last sentence?

- a. Empirical evidence suggesting that mindfulness may negatively affect the nature of thinking
- b. Research confirming mindfulness boosting our mood, performance, and health along the way
- c. Mindfulness meditators having similar physical and mental health than non-meditators
- d. Media reports claiming dramatic changes in brain structure and function due to mindfulness

Answer - A

Question 4:

Which of the following statements is true based on the passage:

Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

1. The effort of talking in a foreign language also makes people reflect more on what they are saying and take more rational decisions while speaking.
2. Anyone who lives or works in a non-English speaking country benefits hugely from almost any familiarity with its language.
3. Beyond the individual benefits, 21st - century global relations and economics vitally need people who can function fluently abroad.
4. With the global rise in English, many native-English speakers question the need to learn a foreign language, but there are several good reasons to do so.

- a) 2,4,1,3
- b) 3,2,1,4
- c) 2,1,3,4
- d) 4,2,1,3

Answer: D

Question 5:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

As the world economy wakes back up, shortage and price spikes are affecting everything from the supply of Taiwanese chips to the cost of a French breakfast. One kind of bottleneck deserves special attention: the supply -side problem, such as scarce metals and land constraints, that threaten to __ (slow) ____ the green - energy boom. Far from being transitory , these bottlenecks risk becoming a recurring feature of the world economy for years to come because the shift to a __ (cleaner) __ energy system is still only in its infancy. Government must respond to these market signals , facilitating a huge private-sector investment boom over the next decade that increases capacity. If they do not , they stand little chance of keeping their promises to reach 'net-zero'. And there has been a dramatic shift in the attitude of business. Investors are demanding that firms change tack spurred by the new reality that clean technologies are more ____ competitive.

A-One kind of bottleneck deserves special attention: the supply- side problems, such as scarce metals and land constraints, that threaten to _____ the green -energy boom.

- a)-Low
- b)-Slow
- c)-Glow
- d)-Blow

Answer: Slow

Question 6:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

As the world economy wakes back up, shortage and price spikes are affecting everything from the supply of Taiwanese chips to the cost of a French breakfast. One kind of bottleneck deserves special attention: the supply -side problem, such as scarce metals and land constraints, that threaten to _____ the green -energy boom. Far from being transitory , these bottlenecks risk becoming a recurring feature of the world economy for years to come because the shift to a ____ energy system is still only in its infancy. Government must respond to these market signals , facilitating a huge private-sector investment boom over the next decade that increases capacity. If they do not , they stand little chance of keeping their promises to reach 'net-zero' _____. And there has been a dramatic shift in the attitude of business. Investors are demanding that firms change tack spurred by the new reality that clean technologies are more ____ competitive.

B- Investors are demanding that firms change tack spurred by the new reality that clean technologies are more ____ competitive.

- a)-Profit
- b)-Cost
- c)-Lost
- d)-Money

B - cost

Question 7:

- In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

As the world economy wakes back up, shortage and price spikes are affecting everything from the supply of Taiwanese chips to the cost of a French breakfast. One kind of bottleneck deserves special attention: the supply -side problem, such as scarce metals and land constraints, that threaten to _____ the green -energy boom. Far from being transitory , these bottlenecks risk becoming a recurring feature of the world economy for years to come because the shift to a____ energy system is still only in its infancy. Government must respond to these market signals , facilitating a huge private-sector investment boom over the next decade that increases capacity. If they do not , they stand little chance of keeping their promises to reach 'net-zero'_____. And there has been a dramatic shift in the attitude of business. Investors are demanding that firms change tack spurred by the new reality that clean technologies are more _____ competitive.

because the shift to a__(cleaner)__ energy system is still only in its infancy

- a. Neater
- b. Cleaner
- c. Deeper
- d. Richer

Answer - cleaner

Question 8

- In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

As the world economy wakes back up, shortage and price spikes are affecting everything from the supply of Taiwanese chips to the cost of a French breakfast. One kind of bottleneck deserves special attention: the question is taken from supply -side problem, such as scarce metals and land constraints, that threaten to_____ the green -energy boom. Far from being transitory , these bottlenecks risk becoming a recurring feature of the

world economy for years to come because the shift to a _____ energy system is still only in its infancy. Government must respond to these market signals , facilitating a huge private-sector investment boom over the next decade that increases capacity. If they do not , they stand little chance of keeping their promises to reach 'net-zero' _____. And there has been a dramatic shift in the attitude of business. Investors are demanding that firms change tack spurred by the new reality that clean technologies are more _____ competitive.

If they do not, they stand little chance of keeping their promises to reach 'net-zero' _____

Options

- a. Emissions
- b. Remissions
- c. Infections
- d. Discharges

Answer:

Remissions

Question 9-

The following paragraph contains four sentences, three of which are grammatically incorrect and only one is correct. From the given options, select the sentence that is grammatically correct.

Products have limited life, not only for the consumer's viewpoint, but also as far as the producer is concerned. For example, a particular model of car might last five years before production is stopped and it's replaced by a completely new model. New inventions and technology has made many products obsolete. Fashion can be another major influence on the lives of a product.

Options

- a. Products have limited life, not only for the consumer's viewpoint, but also as far as the producer is concerned.
- b. For example, a particular model of car might last five years before production is stopped and it's replaced by a completely new model.

- c. New inventions and technology has made many products obsolete.
- d. Fashion can be another major influence on the lives of a product.

Answer:

New inventions and technology has made many products obsolete.

Question 10:

Select the most appropriate Antonym of the given word:

Compassionate

Options

- a. Peerless
- b. Virulent
- c. Antipologinisit
- d. Ruthless

Answer:

Ruthless

Question 11:

For the four sentence (1 to 4) paragraph below, sentences 1 and 4 are given. From P, Q, R and S. Select the appropriate sentence for 2 and 3 respectively.

- 1. The totalitarian regimes established in the 1920's and 1930's grossly violated human rights in their own territories
- 2.
- 3.
- 4. This was reflected in the Charter of the UN signed on 26 June 1945

P. The ideas of elaboration and protection of human rights have been gradually transformed into written laws

Q: During the Second world war, there was massive abuse of human life and dignity

R: However, the charter does not establish any specific mechanism of implementation

S: It became clear that international instruments were needed to codify and protect human rights

Options

- a. PQ
- b. PR
- c. QS
- d. QP

Answer:
PQ

Question 12:

Select the most appropriate option that can substitute the underlined words in the given sentence.

To create a truly successful movie the director, the writers, actors, and the cinematographers, must work together with other people closely.

Options

- a. Felicitate
- b. Corroborate
- c. Collaborate
- d. Facilitate

Answer:
Collaborate

Question 13:

Read the passage below and answer the question that follows:

Offering children a choice facilitates cooperation and usually avoids a war of the wills. Often at this age, young children will say “No” to something parents impose on them, simply to exert their independence. This stubbornness isn’t necessarily bad. Instead it’s a sign of children’s developing individuality. If children are given two choices, such as bread or wheat flakes for breakfast, everyone's needs can be met. The child gets healthy to eat breakfast, can say “No” to one of them, and there isn’t a battle of breakfast.

Which of the statements below can be inferred from the passage?

- a. Choices to be offered to children should be selected by parents

- b. Children should eat only bread or wheat flaked for breakfast
- c. There are situations where children should have absolutely no say
- d. When children No to something , a new choice should be given.

Answer:

When children No to something , a new choice should be given

Question 14:

Read the passage and answer the questions that follow:

Scientists and self-help gurus alike argue that spending too much time ruminating on our worries can make us stressed and miserable, while blinding us to the joys of what is happening right now. Thanks PI for the help. The cure, we are told, is to be more mindful. The practice of mindfulness – paying attention to our experience in a non-judgemental, accepting way – promises to help us escape the tyranny of our thoughts, boosting our mood, performance and health along the way. Secular versions of the practice were first developed from Buddhist roots in the 1970s, paving the way for scientific studies into its effects on the mind. High-profile research papers and media reports have claimed dramatic changes in brain structure and function, and benefits ranging from sharper attention to boost mood, memory and a younger-looking brain. In recent years, though, some researchers have begun to urge caution, warning that the benefits of the practice have been hyped and potential harms ignored.

What message does the last passage of the paragraph convey?

Options

- a. It points to the fact that there are scientific studies and research about the effects of mindfulness
- b. It elucidates the harmful effects of mindfulness as a technique of escaping the tyranny of one's past.
- c. It tells the adherents of mindfulness who celebrates its positive effects that the technique is not without issues
- d. It throws into doubt the usefulness of mindfulness as a therapeutic for de-stressing oneself.

Answer:

It elucidates the harmful effects of mindfulness as a technique of escaping the tyranny of one's past.

Coding

Question 1

Given an array `Arr[]` of `N` integers and a positive integer `K`. The task is to cyclically rotate the array clockwise by `K`.

Note : Keep the first of the array unaltered.

Example 1:

5 ---Value of `N`

{10, 20, 30, 40, 50} ---Element of `Arr[]`

2 -----Value of `K`

Output :

40 50 10 20 30

Example 2:

4 ---Value of `N`

{10, 20, 30, 40} ---Element of `Arr[]`

1 -----Value of `K`

Output :

40 10 20 30

Solution in C++:

```
#include<bits/stdc++.h>
```

```
using namespace std;
```

```
vector<int> rotate(int nums[], int n, int k) {
```

```
    if (k > n)
```

```
        k = k % n;
```

```
    vector<int> ans(n);
```

```
for (int i = 0; i < k; i++) {  
    ans[i] = nums[n - k + i];  
}
```

```
int index = 0;  
for (int i = k; i < n; i++) {  
    ans[i] = nums[index++];  
}  
return ans;
```

```
}
```

```
int main()
```

```
{
```

```
int Array[] = { 1, 2, 3, 4, 5 };  
int N = sizeof(Array) / sizeof(Array[0]);  
int K = 2;
```

```
vector<int> ans = rotate(Array, N, K);
```

```
for (int i = 0; i < N; ++i) {  
    cout << ans[i] << ' ';
```

```
}
```

```
}
```

```
// Another Approach in C++
```

```
#include<bits/stdc++.h>
```

```
using namespace std;
```

```
int main(){
```

```
int N;  
cin>>N;
```

```
vector <int> Arr(N);
```

```
for(int i=0; i<N; i++)  
cin>>Arr[i];
```

```
int K;
```

```
cin>>K;
```

```
K=K%N; //(if K>=N )
```

```
K=(N-K);
```

```
reverse(Arr.begin(), Arr.begin()+K);
```

```
reverse(Arr.begin()+K, Arr.end());
```

```
reverse(Arr.begin(), Arr.end());
```

```
for(int i=0; i<N; i++)
```

```
cout<<Arr[i]<<" ";
```

```
return 0;
```

```
}
```

Solution in Java:

```
import java.util.*;
```

```
public class Main
```

```
{
```

```
    static int[] rotate(int nums[], int n, int k) {
```

```
        if (k > n)
```

```
            k = k % n;
```

```
        int[] ans = new int[n];
```

```
        for (int i = 0; i < k; i++) {
```

```
            ans[i] = nums[n - k + i];
```

```
        }
```

```
        int index = 0;
```

```
        for (int i = k; i < n; i++) {
```

```
            ans[i] = nums[index++];
```

```
        }
```

```
        return ans;
```

```
    }
```

```
    public static void main(String[] args) {
```

```
        int Array[] = { 1, 2, 3, 4, 5 };
```

```
        int N = 5;
```

```

int K = 2;

int[] ans = rotate(Array, N, K);
for (int i = 0; i < N; ++i) {
    System.out.println(ans[i]);
}
}
}

```

Question 2

Given two non-negative integers n_1 and n_2 , where $n_1 < n_2$. The task is to find the total number of integers in the range $[n_1, n_2]$ (both inclusive) which have no repeated digits.

For example:

Suppose $n_1=11$ and $n_2=15$.

There is the number 11, which has repeated digits, but 12, 13, 14 and 15 have no repeated digits. So, the output is 4.

Example 1:

Inout:

11 --- Vlaue of n_1

15 -- value of n_2

Output:

4

Example 2:

Input:

101 -- value of n_1

200 -- value of n_2

Output:

72

Solution in C++:

```

#include<bits/stdc++.h>
using namespace std;

```

```

int find(int n1, int n2) {

```

```

int count = 0;
for (int i = n1 ; i <= n2 ; i++) {
    int num = i;

    vector<bool> visited;
    visited.assign(10, false);

    while (num > 0) {
        if (visited[num % 10] == true)
            break;
        visited[num % 10] = true;
        num /= 10;
    }

    if (num == 0)
        count++;
    }
return count;
}

```

```

int main()
{
    int n1 = 101, n2 = 200;
    cout << find(n1, n2);
}

```

//Another Approach in C++:

```

#include<bits/stdc++.h>
using namespace std;

```

```

int find(int n1, int n2) {
    int count = 0;
    for (int i = n1 ; i <= n2 ; i++) {
        int num = i;

        string s = to_string(num);
        set<int> unique(s.begin(), s.end());
        if (s.size() == unique.size()) {
            count++;
        }
    }
}

```

```

    }
    return count;
}

int main()
{

    int n1 = 101, n2 = 200;
    cout << find(n1, n2);
}

```

Solution in Java:

```

import java.util.*;
public class Main
{
    static int find(int n1, int n2) {
        int count = 0;
        for (int i = n1 ; i <= n2 ; i++) {
            int num = i;

            boolean[] visited = new boolean[10];

            while (num > 0) {
                if (visited[num % 10] == true)
                    break;
                visited[num % 10] = true;
                num /= 10;
            }

            if (num == 0)
                count++;
        }
        return count;
    }
    public static void main(String[] args) {
        int n1 = 101, n2 = 200;
        System.out.println(find(n1, n2));
    }
}

```

}

Day 1 Slot 2

Quants

Question 1:

The average of 19 numbers is 42. The average of the first 6 numbers is 38.5 and that of the last 14 numbers is 45.5. If the sixth number is excluded then what is the average of the remaining numbers? (Correct to 1 decimal place)

- a. 40.8
- b. 41.2
- c. 40.4
- d. 41.6

Answer:

40.4

Question 2:

A certain sum was invested at 20% p.a for 2 years such that the interest was compounded half-yearly for the first year and compounded yearly for the next year the total interest earned on the sum was Rs 10,170, then the sum (in Rs.) was:

- a. 24,500
- b. 22,500
- c. 25,000
- d. 24,000

Answer:

22,500

Question 3:

The numbers 4121, 4793, and 6464 leave the remainder x in each case when divided by the greatest number y . The value of $(2y - x)$ is:

- a. 352
- b. 432
- c. 426
- d. 336

Answer:

352

Question 4:

A divided money between 2 sons B and C. The amount of money received by B after 13 years is equal to the amount received by C in 15 years at the rate of 4% p.a compound interest. The difference between their shares is Rs. 102. Find the amount (in Rs) in total?

- a. 2602
- b. 1250

- c. 2702
- d. 1352

Answer:

2602

Question 5:

The number of ways of choosing $(x+8)$ balls out of 36 balls is equal to choosing x balls out of 36 balls. Find the number of ways of choosing $(n+5)$ balls out of 25 balls.

- a. 1,69,900
- b. 1,77,100
- c. 1,74,100
- d. 1,70,000

Answer:

1,77,100

Question 6:

A fraction becomes $\frac{2}{3}$, if 1 is added to its numerator and 2 is added to its denominator. If 2 is subtracted from the numerator and 5 is added to its denominator, the fraction becomes $\frac{1}{4}$. If 3 is added to the numerator and 1 is subtracted from the denominator, then the fraction becomes:

- a. $\frac{4}{3}$
- b. $\frac{3}{4}$
- c. $\frac{6}{5}$
- d. $\frac{5}{7}$

Answer:

$\frac{4}{3}$

Question 7:

A shopkeeper bought a lamp at Rs.1,200 and the ratio of its cost price and marked price was 3:5. It was sold after two successive discounts of 30% and 18% and incurred a loss or profit of $x\%$. Find x ?

- A. $4\frac{2}{3}$ profit
- B. $4\frac{1}{3}$ loss
- C. $4\frac{2}{3}$ loss
- D. $4\frac{1}{3}$ profit

Answer:

$4\frac{1}{3}$ loss

Question 8:

B is $\frac{1}{4}$ times more than the age of A. 5 years ago, the sum of the ages of B and C was 50 years. The average age of A and B at present is 22.5 years. After 6 years, the age of D will be $\frac{1}{5}$ times more than C's age at present. Find the ratio of the sum of present ages of B and C to that of A and D.

- a. 5:9
- b. 20:27
- c. 10:27
- d. 15:14

Answer:

15:14

Question 9:

Arun borrowed a certain sum at the rate of 8% for the first three years, at the rate of $9\frac{1}{2}$ p.a for the next 4 years and at the rate of 15% for the period beyond 7 years. If he pays a total simple interest of Rs. 8,015 at the end of $10\frac{1}{2}$ years, the sum (in Rs.) was:

- a. 6,500
- b. 7,000
- c. 7,200
- d. 7,500

Answer:

7000

Question 10:

A and B are coming from opposite directions. A starts at 10 a.m. towards B. B starts at 11 a.m. towards A. The speeds of A and B are 40 km/h and 50 km/h, respectively. At what time will they meet each other, if A and B are 100 km apart?

- a. 12:00 p.m.
- b. 11:50 a.m.
- c. 10:40 a.m.
- d. 11:40 a.m.

Answer:

11:40 am

Question 11:

15 men and 20 boys can complete a work in 15 days. 20 men and 35 boys can complete the same work in 10 days. Determine the efficiency of boys with respect to men

- a. 1:1.5
- b. 1:2
- c. 1.5:1
- d. 2:1

Answer:

1:2

Study the given information and answer the questions.

In a company there are 1300 employees. The company has five departments HR, Finance, Marketing, Administration and Manufacturing. Out of the total female employees in the company 32% work in the HR department, 20% work in the Finance department, 18% work in the marketing department and the remaining 180 female employees work in the administration department. There are no female employees in the manufacturing department.

Out of the total male employees in the company, 15% work in the HR department, 27% work in the marketing department, 25% work in the Finance department, 20% work in the administration department, and the remaining male employees work in the manufacturing department

Question 12:

What is the average number of employees (male and female) who work in the Marketing, Finance and Administration departments?

- a. 301
- b. 304
- c. 308
- d. 312

Answer:

304

Question 13:

The total number of male employees working in the HR and finance departments is what percentage of the total number of female employees working in HR, marketing and Administration department (nearest to an integer)?

- a. 54%
- b. 56%
- c. 60%
- d. 58%

Answer:

60%

Question 14:

If the number of female employees in HR department increases by 25% , the number of female employees in the finance department increases by 15% and 48 female employees leave the administration department, and then the total number of female employees in the company will increase by

- a. 15
- b. 18
- c. 16
- d. 12

Answer:

18

Question 15:

If male employees from the marketing department are transferred to the manufacturing department and 20 female employees from the administration department are transferred to the HR department, then the total number of employees in the marketing department is what percentage less than the number of employees in the administration department?

- a. $6\frac{2}{3}$
- b. $6\frac{1}{4}$
- c. $5\frac{1}{2}$
- d. $8\frac{1}{3}$

Answer:

$6\frac{2}{3}$

Verbal

Question 1. Select the option that gives the most appropriate meaning of the underlined word.

The affordances that social media have in organisational contexts can be undermined.

Options

- a. Liabilities
- b. Features
- c. Qualities
- d. Possibilities

Answer: It can be both features and qualities

Question 2. The following paragraph contains four sentences, three of which are grammatically incorrect and only one is correct. From the given options, select the sentence which is grammatically correct.

When Jamsetji Tata started a trading firm from 1868, few could have predicted that he would one day be called the Father of Trading Firm. Born in Navsari, Gujrat, Jamsetji moved to Bombay, now mumbai, in the age of fourteen and joined his fathers trading firm. Fifteen years he branched out on his own and built a reputation on acquiring and turning around sick mills. Jamsetji also put in place pioneering labour practices, long before any labour laws came into existence.

Options

- a. Fifteen years he branched out on his own and built a reputation on acquiring and turning around sick mills.
- b. Jamsetji also put in place pioneering labour practices, long before any labour laws came into existence.
- c. Born in Navsari, Gujrat, Jamsetji moved to Bombay, now mumbai, in the age of fourteen and joined his fathers trading firm.
- d. When Jamsetji Tata started a trading firm from 1868, few could have predicted that he would one day be called the Father of Trading Firm.

Answer:

Fifteen years he branched out on his own and built a reputation on acquiring and turning around sick mills.

Wrong sentences -

put into place

At the age

In 1868

Question 3) For the four sentences (1 to 4) Paragraph below, sentences 1 and 4 are given. From P,Q,R and S select the options carefully.

1. International and internal conflicts force people to leave their homes.
- 2.
- 3.
4. UNHCR is responsible for supervising international provisions for protection of refugees.

P. Problems relating to refugee movements are often aggravated by drought, famine and anarchy.

Q. Although refugee law is not directly applicable to internally displaced people. UNHCR provides assistance to them.

R. Preventive strategies must be evolved to avert and resolve refugee flows and internal displacement.

S. People who move within their own country are called internally displaced persons while those who leave are called (**missing**)

- a) RQ
- b) SP
- c) SQ
- d) PQ

Answer: C
SQ

Question 4. Read the passage below and answer the question that follows:

In the years since the Cold War and collapse of the Soviet Union, the two countries have worked to set beside their differences, but tension still simmers beneath the surface. Russia was still viewed by many Americans as remote, mysterious, and even dangerous. Similarly, the Russians harbour both admiration and contempt for America's economic prowess and superpower status.

Which of the statements below can be inferred from the passage?

- a) Russia and America do not trust each other.
- b) The collapse of the Soviet Union has made the two countries enemies.
- c) Russia and America have worked out their differences.
- d) Russians hate Americans more than Americans hate Russians.

Answer - A

Russia and America do not trust each other

Question 5) Sentences of a paragraph are given below in a jumbled order. Arrange the sentences in correct order to form -

1. If we harness the process, we could naturally modify the crops and make them more resistant to the effects of climate change.
2. A recent study shows that a lateral gene transfer is widespread in grasses, including many food crops.
3. While we do not fully know how genes move between species, we could benefit from mimicking the transfer between species
4. The research shows that genes can freely move between grass species regardless of how closely related they are.

- a) 3,2,4,1
- b) 2,1,3,4
- c) 3,1,4,2
- d) 2,4,3,1

Answer D

2,4,3,1

Question 6. Select the appropriate option that substitutes the underlined word in the given sentence.

Whenever we talk about a school, teachers, students, and their parents are described as their most important group of people who are involved with the organization. have responsibilities towards and have an interest in its success.

Options

- a. Stakeholders
- b. Upholders
- c. Beholders
- d. Placeholders

Answer - stakeholders

Upholder - An upholder of a particular tradition or system is **someone who believes strongly in it and will support it when it is threatened.**

Beholder - a person who sees or observes someone or something.

Placeholder - **person or thing that occupies the position or place of another person or thing**

Question 7. No Ecosystem more important in mitigating the effects of climate change than tropical rainforest. And South-East Asia is home to the world's third-biggest patch of it, behind the Amazon and Congo basins. Even though humans release carbon from these forests through logging, clear-felling for agriculture and other disruptions, some are so vast and fecund that the growth of the plants within them absorbs even more from the atmosphere. The Congo basin, for instance, locks up 600m tonnes of carbon a year more than it releases, according to the World Resources Institute (WRI), an international NGO that is equivalent to about a third of emissions from all American transport. The Amazon, too, remains a net absorber (though four years of massive fires and clearing for cattle have brought it to a tipping-point). In contrast, such is the extent of clearing for plantations in South-East Asia's rainforests, which run from Myanmar to Indonesia, that over the past 20 years they have turned from a growing carbon sink to a significant source of emissions—nearly 500m tonnes a year. Indonesia and Malaysia, home to the biggest expanses of pristine forest, have lost more than a third of it this century. Cambodia, Laos and Myanmar, relative newcomers to deforestation, are making up for lost time.

Which of the following statements is NOT TRUE as per the passage?

- A. Climate changes mitigate the effects of tropical rainforests.
- B. Our planet requires more carbon sinks than sources of carbon emission.
- C. Emissions from all American countries exceed 500 m tonnes of carbon a year.
- D. The world is not against agriculture per se, but against deforestation at large.

Answer: Option C

Question 8. Select the most appropriate ANTONYM of the given word.

Erratic

- A. Invariant
- B. Concurrent
- C. Sporadic
- D. Consistent

Answer: Option D

Coding

Question 1:

Given an array Arr[] of N integer numbers. The task is to rewrite the array by putting all multipliers at the end of the given array.

Note : The order of the numbers which are not the multiplier of 10 should remain unaltered ,and similarly the order of the numbers which are the multiplier of 10 should remain unaltered.

For example :

Suppose N = 9 and Arr[] = {10, 12, 5, 40, 30, 7, 5, 9, 10}

You have to push all the multiple of 10 at the end of the array Arr[].

Hence the output is : 12 5 7 5 9 10 40 30 10

Solution in C++

```
#include<bits/stdc++.h>
```

```
using namespace std;
```

```
int main ()
```

```
{
```

```
    int N;
```

```
    cin>>N;
```

```
    vector <int> Arr(N);
```

```
    for(int i=0; i<N; i++)
```

```
        cin>>Arr[i];
```

```
    vector<int> A1, A2;
```

```
    for(int i=0; i<N; i++)
```

```
    {
```

```
        if(Arr[i]%10==0)
```

```
            A2.push_back(Arr[i]);
```

```
    else A1.push_back(Arr[i]);  
}
```

```
for(int i=0; i<A1.size(); i++)  
Arr[i]=A1[i];
```

```
int k=A1.size();
```

```
for(int i=0; i<A2.size(); i++)  
Arr[k++]=A2[i];
```

```
for(int i=0; i<N; i++)  
cout<<Arr[i]<<" ";
```

```
return 0;
```

```
}
```

Question 2:

Given an array Arr[] of N integers and a positive integer K. The task is to Divide the array into two sub array from right after the Kth position and slide the left sub array of K elements to the end.

Example 1:

5 ---Value of N

{ 10, 20, 30, 40, 50 } --- Element of Arr[]

2 -----Value of K

Output :

30 40 50 10 20

Example 2:

4 ---Value of N

{ 10, 20, 30, 40 } ---Element of Arr[]

1 -----Value of K

Output :

20 30 40 10

Solution in C++ :

```
#include<bits/stdc++.h>
using namespace std;
```

```
int main ()
```

```
{
```

```
    int N;
```

```
    cin>>N;
```

```
    vector <int> Arr(N);
```

```
    for(int i=0; i<N; i++)
```

```
        cin>>Arr[i];
```

```
    int K;
```

```
    cin>>K;
```

```
    queue <int> que;
```

```
    for(int i=0; i<N; i++)
```

```
        que.push(Arr[i]);
```

```
    while(K--)
```

```
    {
```

```
        int x= que.front();
```

```
        que.pop();
```

```
        que.push(x);
```

```
    }
```

```
    while(!que.empty()){
```

```
        cout<<que.front()<<" ";
```

```
        que.pop();
```

```
}
```

```
return 0;
```

```
}
```

Day 1 Slot 3

Quants

Question 1:

25 numbers were recorded and their average was calculated as 50.6. Later, it was found that three numbers 29, 35 and 72 were wrongly taken as 92, 53, and 27, respectively and one number was inadvertently left out from being recorded. What is the correct average of all the numbers?

- a. 50.5
- b. 49.5
- c. 48.7
- d. 48.2

Answer:

49.5

Question 2:

A sum of rs. X was lent at 10% p.a. For 4 years, interest compounded annually. If the difference between the compound interest for the fourth year and the third year is rs. 847, then what is the value of x?

- a. 53,000
- b. 70,000
- c. 77,000
- d. 66,000

Answer:

77,000

Question 3:

The value of $\frac{(4.8)^2 + (3.2)^2}{(4.8)^2 - (3.2)^2} + \frac{7.5 \times [(25.8)^2 + 8.6 \times 49.2]}{[(32.35)^2 - (9.85)^2] \times 8.6}$ is:

- a. 12.2
- b. 9.6
- c. 14.6
- d. 11.2

Answer:

9.6

Question 4:

In an examination, 50% passed in Maths and 75% passed in English and 20% passed in both subjects. Find the difference between the number of students who passed only in English to those who passed in maths, if 270 students passed in both the subjects.

- a. 180
- b. 120
- c. 210
- d. 150

Answer:

210

Question 5:

A bag contains $x + 2$ black balls, $x + 5$ red balls and $x + 8$ white balls. The probability of getting a black ball is $\frac{1}{4}$.

4. What is the probability of getting three balls of different colours, when three balls are drawn?

- a. $\frac{23}{45}$
- b. $\frac{119}{119}$

- c. $\frac{119}{27}$
d. $\frac{119}{27}$

Answer:

$$\frac{27}{119}$$

Question 6:

The cost of 5 pens and 7 notebooks is rs. 224. If the cost of a pen increases by rs. 2 and the cost of a notebook reduces by rs. 3, then the cost of 3 pens and 4 notebooks is rs. 124. What is the original cost (in rs.) of 4 pens and 3 notebooks?

- a. 144
b. 121
c. 122
d. 127

Answer:

122

Question 7:

An article is sold at 15% profit by giving a discount of 17.2%. The marked price of the article is Rs. 5000. Determine the cost price.

- a. Rs. 5,095
b. Rs. 36,000
c. Rs. 3,600
d. Rs. 6,995

Answer:

Rs. 3,600

Question 8:

A and B invested in the ratio 4:5. A left after 9 months and B increased his investment by 20%. C joined with an investment of 33.33% of the present investment of B. The annual profit was Rs. 42,000. Find the percentage difference between A and B's profit to that of A.

- a. 25%
b. 175%
c. 50%
d. 75%

Answer:

175%

Question 9:

The amount obtained by Sumit by investing a sum of Rs. 10,920 for 3 years at the rate of 10% p.a simple interest is equal to the amount obtained by Raghav by investing a certain sum (in Rs.) for 5 years at the rate of 8% p.a simple interest. What is 85% of the sum (in Rs.) invested by Raghav?

- a. 8519
- b. 8619
- c. 8591
- d. 8692

Answer:

8619

Question 10:

A man walks around a square garden of perimeter 8 km at a speed of 2 km/h, 3 km/h, 4 km/h and 5 km/h on each side of the square garden. Calculate the average speed.

- a. 3.112 km/h
- b. 2.912 km/h
- c. 3.312 km/h
- d. 3.212 km/h

Answer:

3.112 km/h

Question 11:

Rajesh can complete a job in 18 days. Rohit is 50% more skilled than Rajesh. Find the total time taken to do the same job when they both work together.

- a. 7.2 days
- b. 7.4 days
- c. 7.10 days
- d. 7 days

Answer:

7.2 days

Directions for question number 12-15:

Study the given information and answer the questions that follows:

There are 800 players in a stadium who are participating in 4 sports- A,B,C and D (one person in one sport only). The ratio of male to female players is 9:7. The ratio of male players who are participating in sport A to other male players who are participating in other three sports is 4:5.

12% of the male players who are not participating in A, are participating in sport D. The remaining male players are participating in sports B and C in the ratio 5:6.

48% of the female players are participating in sport A and 22 female players are participating in sport B. The remaining female players are participating in sport C and D in the ratio 7:9.

Question 12:

What is the ratio of the number of male players participating in sport C to the number of female players participating in sport D?

- a. 4:3
- b. 10:9
- c. 3:2
- d. 7:5

Answer:

4:3

Question 13:

Approximately what percentage of the total number of players participating in sport D is equal to the number of female players playing sport C?(correct to one decimal place)

- a. 59.6 %
- b. 57.6 %
- c. 57.9 %
- d. 58.3 %

Answer:

59.6%

Question 14:

The number of female players participating in sports A and B together is what percentage more than the number of male players participating in sports B and D together (correct to one decimal place)?

- a. 31.8 %
- b. 46.2 %
- c. 31.2 %
- d. 48.4 %

Answer:

46.2%

Question 15:

The average number (per sport) of male players participating in sports A, B and C is what percentage less than the number of female players participating in sports C and D together (correct to one decimal place)?

- a. 12.5 %
- b. 10.0 %
- c. 12.0 %
- d. 9.5 %

Answer:

12.5%

Verbal

Question 1:

Select the option that gives the best appropriate meaning of the underlined word.

The kitchen is compact but has everything one needs.

- a. Small but well organized
- b. Spacious and well organized
- c. Small and Very Cramped
- d. Spacious but disorganized

Answer:

Small but organized

Question 4:

Read the passage below and answer the questions that follows:

Genealogy is fun. Just a piece of furniture or a picture takes on much more interest if you know its history, so does an individual become much more real once the ancestral elements that shaped him are known. An in-depth family history is a tapestry of all those to whom we owe our existence.

Which of the Statements can be inferred from the passage?

- a. Genealogical research can bring meaning and life to a person's history.
- b. To know a person well, one must know the family history and the events in his/her life.
- c. Knowing the genealogy of a person makes the person more real.
- d. Finding out about our ancestors is more interesting than researching the history of objects.

Answer:

C - Knowing the genealogy of a person makes the person more real.

Question 5:

Sentences of a paragraph are given below in a jumbled order. Arrange the sentences into correct order to form a meaningful and coherent paragraph.

- 1. This calls for a continuous, in-situ sewerage water quality monitoring systems without human intervention in factories which will provide real-time data and track the situation
- 2. The source of pollution was unclear, but the pandemic-related industrial lockdown provided a once-in-a-lifetime opportunity to get to the source of the problem
- 3. The dramatic fall in river pollution during the lockdown pointed to industrial pollutants as the principal culprit, even though all the industries are meant to be fitted with treatment plants
- 4. In spite of vast investment in efforts to clean the river waters in India, the finding in 2017 'not a single drop of river Ganga has been cleaned so far.'

- a. 4132
- b. 3142
- c. 4231
- d. 3421

Answer:

4231

Question 6:

Select the most appropriate option that can substitute the underlined word.

Naphtha, a cheap fuel extracted from crude oil, is added to petrol to make the quality of petrol poorer.

- a. vitiate
- b. obliterate
- c. adulterate
- d. Mitigate

Answer:

C - Adultrate

Question 7:

Select the most appropriate Antonym for the given word below.

Auspicious

- a. Felicitous
- b. Ominous
- c. Pompous
- d. Vicious

Answer:

Ominous

Read the given passage and answer the questions that follow:

Typically when an author signs a publishing contract, she or her agent negotiates an advance against royalties. When a book 'has sold for' so many dollars, this amount is the advance and not a flat purchase price. An advance is often paid in three installments. When the manuscript is accepted by the publisher, and when the book is published. Some publishers may break down these payments even more. Once the book is published, authors make a percentage of sales for each book sold, which are their royalties. However they are essentially earning money they have already been paid. Once the book has made the author the amount of royalties they were advanced, they begin to earn additional royalties; this is often called 'earning out'. If the book never makes an advance back, the author does not have to pay the overage back to the publisher, except in circumstances where they have violated/terminated the contract.

Question 8:

Select the title for the passage:

- a. How authors get paid royalties in installments in the publishing industry.
- b. How royalties work against authors in the publishing industry.

- c. How author payment works in the traditional publishing industry.
- d. How publishers Draw a contract with authors in the publishing industry.

Answer:

C - How author payment works in the traditional publishing industry.

Question 9:

Read the given passage and answer the questions that follow:

Typically when an author signs a publishing contract, she or her agent negotiates an advance against royalties. When a book 'has sold for' so many dollars, this amount is the advance and not a flat purchase price. An advance is often paid in three installments. When the manuscript is accepted by the publisher, and when the book is published. Some publishers may break down these payments even more. Once the book is published, authors make a percentage of sales for each book sold, which are their royalties. However they are essentially earning money they have already been paid. Once the book has made the author the amount of royalties they were advanced, they begin to earn additional royalties; this is often called 'earning out'. If the book never makes an advance back, the author does not have to pay the overage back to the publisher, except in circumstances where they have violated/terminated the contract.

Who takes the most significant risk in the publishing industry?

- a. The Author
- b. The Printer
- c. The Publisher
- d. The Agent

Answer:

C - The Publisher

Question 10:

Read the given passage and answer the questions that follow:

Typically when an author signs a publishing contract, she or her agent negotiates an advance against royalties. When a book 'has sold for' so many dollars, this amount is the advance and not a flat purchase price. An advance is often paid in three installments. When the manuscript is accepted by the publisher, and when the book is published. Some publishers may break down these payments even more. Once the book is published, authors make a percentage of sales for each book sold, which are their royalties. However they are essentially earning money they have already been paid. Once the book has made the author the amount of royalties they were advanced, they begin to earn additional royalties; this is often called 'earning out'. If the book never

makes an advance back, the author does not have to pay the overage back to the publisher, except in circumstances where they have violated/terminated the contract.

When does 'earning out' become operational?

- a. When authors violate their contract
- b. When royalties surpass the advance paid
- c. When books get sold in bookstores or online
- d. When authors receive a flat price, not an advance

Answer:

B - When royalties surpass the advance paid

Question 11:

Read the given passage and answer the questions that follow:

Typically when an author signs a publishing contract, she or her agent negotiates an advance against royalties. When a book 'has sold for' so many dollars, this amount is the advance and not a flat purchase price. An advance is often paid in three installments. When the manuscript is accepted by the publisher, and when the book is published. Some publishers may break down these payments even more. Once the book is published, authors make a percentage of sales for each book sold, which are their royalties. However they are essentially earning money they have already been paid. Once the book has made the author the amount of royalties they were advanced, they begin to earn additional royalties; this is often called 'earning out'. If the book never makes an advance back, the author does not have to pay the overage back to the publisher, except in circumstances where they have violated/terminated the contract.

Which myth does the passage set out to explode

- a. Authors get paid in full when publishers accept their Manuscripts
- b. Authors write, agent sells manuscripts, publishers earn
- c. Authors are wealthy as they earn high royalties
- d. Authors need an agent to get their works published.

Answer:

C - Authors are wealthy as they earn high royalties

Question 12:

In the following passage some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

Who governs a country's airspace? And what laws protect airline's (1) _____ to fly over a foreign country? For the answers go back to treaties that set up the international (2)_____ after the second world war. Aviation and shipping were excluded from these ----- the first because post-war Britain thought that competition from American airlines on routes to its (3)_____ would drive London-based ones out of business. The resulting Chicago convention of 1944--- which set up the International Civil Aviation Organization (ICAO), which would become the United Nations body for air transport--- gave countries 'complete and _____ Sovereignty' over the skies above their territories.

Select the most appropriate option to fill in the blank number 3?

- a. Settlements
- b. Societies
- c. Groups
- d. Colonies

Answer:

Colonies

Question 13:

In the following passage some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

Who governs a country's airspace? And what laws protect airline's (1) _____ to fly over a foreign country? For the answers go back to treaties that set up the international (2)_____ after the second world war. Aviation and shipping were excluded from these ----- the first because post-war Britain thought that competition from American airlines on routes to its (3)_____ would drive London-based ones out of business. The resulting Chicago convention of 1944--- which set up the International Civil Aviation Organization (ICAO), which would become the United Nations body for air transport--- gave countries 'complete and _____ Sovereignty' over the skies above their territories.

Select the most appropriate option to fill in the blank number 4?

- a. Exceptional
- b. Executive
- c. Inclusive
- d. Exclusive

Answer:

Exclusive

Question 14:

In the following passage some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

Who governs a country's airspace? And what laws protect airline's (1) _____ to fly over a foreign country? For the answers go back to treaties that set up the international (2)_____ system after the second world war. Aviation and shipping were excluded from these ----- the first because post-war Britain thought that competition from American airlines on routes to its (3)_____ would drive London-based ones out of business. The resulting Chicago convention of 1944--- which set up the International Civil Aviation Organization (ICAO), which would become the United Nations body for air transport--- gave countries 'complete and _____ Sovereignty' over the skies above their territories.

Select the most appropriate option to fill in the blank number 2?

- a. Trading
- b. Barter
- c. Business
- d. Commerce

Answer:

Trading

Question 15:

In the following passage some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank

Who governs a country's airspace? And what laws protect airline's (1) _____ to fly over a foreign country? For the answers go back to treaties that set up the international (2)_____ after the second world war. Aviation and shipping were excluded from these ----- the first because post-war Britain thought that competition from American airlines on routes to its (3)_____ would drive London-based ones out of business. The resulting Chicago convention of 1944--- which set up the International Civil Aviation Organization (ICAO), which would become the United Nations body for air transport--- gave countries 'complete and _____ Sovereignty' over the skies above their territories.

Select the most appropriate option to fill in the blank number 1?

- a. Honour
- b. Pleasure
- c. Right

d. Claim

Answer:

Right

Coding

Question 1:

For hiring a car, a travel agency charges R1 rupees per hour for the first N hours and then R2 rupees per hour. Given the total time of travel in minutes in X.

The task is to find the total travelling cost in rupees.

Note : While converting minutes into hours, ceiling value should be considered as the total number of hours.

For example : If the total travelling time is 90 minutes, i.e. 1.5 hours, it must be considered as 2 hours.

Example :

Input :

20 -- r1

4 -- n

40 -- r2

300 -- x

Output :

120

Explanation :

Total travelling hours = $300 / 60 = 5$ hours

Rupees 20 / hours for first 4 hours = $20 * 4 = 80$ rupees

Rupees 40 / hours in 5th hour = $40 * 1 = 40$ rupees

Hence, the total travelling cost = $80 + 40 = 120$ rupees

Solution in C++:

```
#include<bits/stdc++.h>
```

```
using namespace std;
```

```
int main () {
```

```
    int r1;
```

```
    cin >> r1;
```

```
    int n;
```

```
    cin >> n;
```

```
    int r2;
```

```
    cin >> r2;
```

```
    int x;
```

```
    cin >> x;
```

```
    int total = 0;
```

```
    int hours = ceil(x * 1.0 / 60);
```

```
    if (n > hours) {
```

```
        total += (hours * r1);
```

```
    } else {
```

```
        total += n * r1;
```

```
        hours -= n;
```

```
        total += hours * r2;
```

```
    }
```

```
    cout << total;
```

```
    return 0;
```

```
}
```

Question 2:

Explanation:

There is a bag with three types of gemstones: Ruby of type R, Garnet of G, and Topaz of type T.

Write a program to find the total number of possible arrangements to make a series of gemstones where no two gemstones of the same type are adjacent to each other.

Example 1:

Input:

1-- count of Ruby

1-- count of Garnet

0-- count of Topaz

Output:

2

Arrangements are RG and GR.

Example 1:

Input:

1-- count of Ruby

1-- count of Garnet

1-- count of Topaz

Output:

6

Solution in C++:

```
#include<bits/stdc++.h>
using namespace std;
#define mod 1000000007
```

```
int dp[21][21][21][4];
```

```
int countPossibleWays(int a, int b, int c, int prev) {
    if (dp[a][b][c][prev] != -1) {
        return dp[a][b][c][prev];
    }
    else if (a == 0 && b == 0 && c == 0) {
        dp[a][b][c][prev] = 1;
        return dp[a][b][c][prev];
    }
}
```

```

long long ans = 0;
if (prev == 0) {
    if (b != 0)
        ans = (ans + countPossibleWays(a, b - 1, c, 1)) % mod;
    if (c != 0)
        ans = (ans + countPossibleWays(a, b, c - 1, 2)) % mod;
}
else if (prev == 1) {
    if (a != 0)
        ans = (ans + countPossibleWays(a - 1, b, c, 0)) % mod;
    if (c != 0)
        ans = (ans + countPossibleWays(a, b, c - 1, 2)) % mod;
}
else {
    if (a != 0)
        ans = (ans + countPossibleWays(a - 1, b, c, 0)) % mod;
    if (b != 0)
        ans = (ans + countPossibleWays(a, b - 1, c, 1)) % mod;
}
dp[a][b][c][prev] = ans;
return ans;
}

```

```

void solve(int a, int b, int c) {
    memset(dp, -1, sizeof(dp));
    long long ans = 0;
    if (a != 0)
        ans = (ans + countPossibleWays(a - 1, b, c, 0)) % mod;
    if (b != 0)
        ans = (ans + countPossibleWays(a, b - 1, c, 1)) % mod;
    if (c != 0)
        ans = (ans + countPossibleWays(a, b, c - 1, 2)) % mod;
    cout << ans;
}

```

```

int main () {

    int a, b, c;
    cin >> a >> b >> c;
    solve(a, b, c);
}

```

```
return 0;  
}
```

Day 2 Slot 1

Quants

Question 1:

The ratio of boys to girls in a class is 4:5. The average score in an English test of all students is 58. The average score of the boys in the test is 40% more than that of girls. What is the average score of the girl?

- a) 48
- b) 42
- c) 46
- d) 45

Answer- Coming Soon

Question 2:

The compound interest on a certain sum at 12% p.a for $1\frac{1}{4}$ years is Rs. 1765.40, when the interest is compounded five monthly. What will be the amount (in Rs.) of the same sum at 20% p.a for the same time, when the interest is compounded yearly?

- a. 15,124
- b. 14,112
- c. 14,215
- d. 15,114

Answer- Coming Soon

Question 3:

If $[1\frac{1}{3}/3\frac{1}{5}\text{ of } \frac{5}{6} + \frac{2}{3} - x(\frac{3}{8}\text{ of } \frac{4}{5}/1\frac{1}{5})] = (3\frac{4}{7}/\frac{5}{14}\text{ of } 6\frac{2}{3})\text{ of } \frac{1}{9}$ then what is the value of $\frac{(x+2)}{(x-2)}$

- a. $3/2$
- b. 3
- c. 1
- d. 2

Answer- Coming Soon

Question 4:

In a class of 500 students, 35% are girls and the rest are boys. 80% of girls and 60% boys passed in the exam. Find the percentage of difference between the girls and boys that failed the exam to the boys who failed.

- a. $73\frac{1}{13}$
- b. $72\frac{5}{13}$
- c. $73\frac{5}{13}$
- d. $72\frac{1}{13}$

Answer- Coming Soon

Question 5:

A box contains x paper sticks, x+3 plastic sticks and x-7 wooden sticks. If the probability of getting one plastic and one wooden stick is 32% , then find the total number of sticks.

- a. 35
- b. 40
- c. 15
- d. 25

Answer- Coming Soon

Question 7:

The cost price of a juicer and a grinder is $x+320$ and $x-200$, respectively. The juicer is sold at 25% loss and the grinder is at 25% profit. If the selling price of the juicer is Rs. 810 less than the grinder, then find the sum of their cost prices.

- a. Rs. 5,220
- b. Rs. 5,520
- c. Rs. 5,420
- d. Rs. 5,320

Answer- Coming Soon

Question 9) If certain sum amounts to Rs. 6,312 in $3\frac{1}{2}$ years and amounts to Rs. 8,040 in $7\frac{1}{2}$ years at a certain rate percentage p.a simple interest. The sum (in Rs.) and the rate of interest p.a respectively are?

- a. 7,200 and 6%
- b. 5,400 and 8%
- c. 4,800 and 8%
- d. 4,800 and 9%

Answer- Coming Soon

Question 10:

A motorcycle moving at a speed of 30 kmph. It is overtaken by a car at a speed of 60 kmph. Considering safe distance is 10 m before and after the overtaking vehicle. Calculate the time taken by the car for overtaking.

- a. 2.4 seconds
- b. 2.8 seconds
- c. 2.6 seconds
- d. 2.2 seconds

Answer- Coming Soon

Question 11:

Work done by Ramesh in 8 hours is equal to work done by Mohit in 10 hours and the same work done by Anjali in 6 hours. Suppose Ramesh and Mohit complete the job working together 8 hours per day in 5

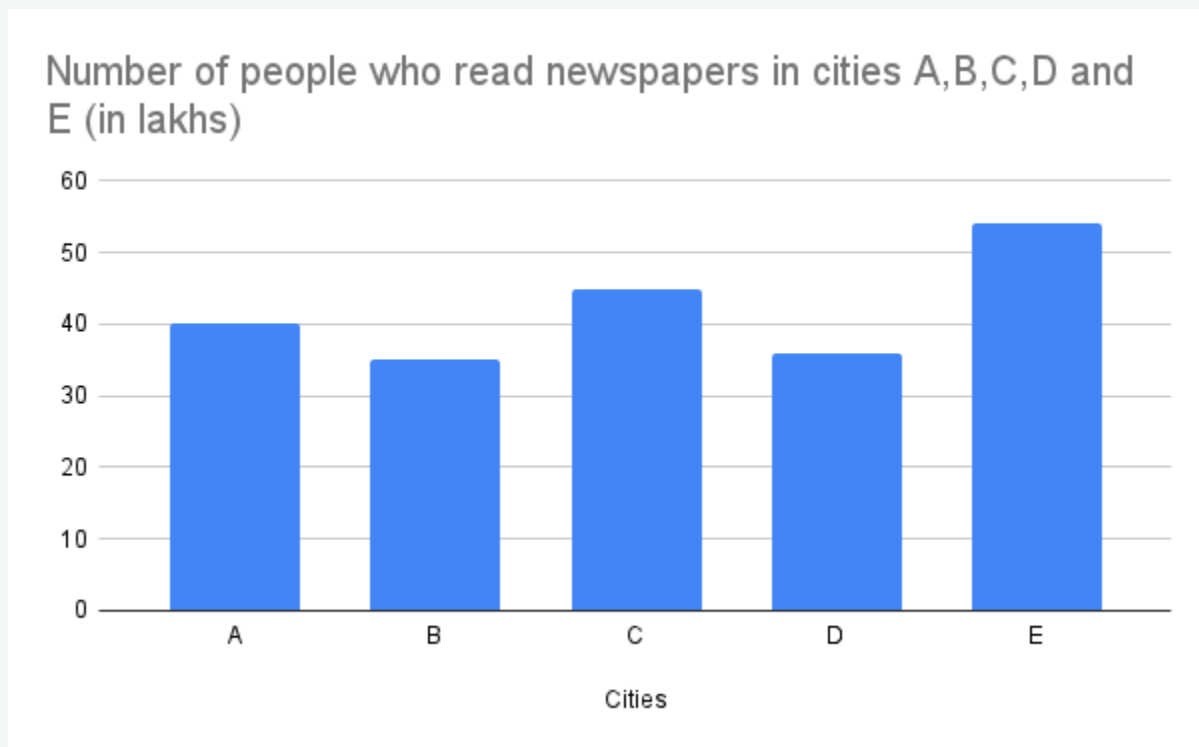
days. Determine how many days will be required if Mohit and Anjali work together for the same job, if they work 10 hours per day.

- a. 3.25
- b. 3.375
- c. 3.625
- d. 3.5

Answer- Coming Soon

Directions for Questions (12-15) :

Study the graph and table and answer the following questions:



The given table shows the number of people who read newspapers P, Q, R and S and the percentage of total number of people who read newspapers in these cities.

| Cities-> | A | B | C | D | E |
|----------|---|---|---|---|---|
| \ | | | | | |

| Newspapers | | | | | |
|------------|----|----|----|----|----|
| P | 15 | 20 | 28 | 18 | 20 |
| Q | 40 | 15 | 30 | 30 | 26 |
| R | 20 | 30 | 20 | 20 | 30 |
| S | 25 | 35 | 22 | 32 | 24 |

Answer- Coming Soon

Question 12:

What is the difference between the total number of people who read newspapers P and S in city B and the total number of people who read newspapers Q and R in city D?

- A. 1,30,000
- B. 1,25,000
- C. 1,20,000
- D. 1,35,000

Answer- Coming Soon

Question 13:

What is the ratio of the total number of people who read newspapers Q and R in city C to the total number of people who read newspapers P and R in city E?

- a. 6 : 7
- b. 5 : 6
- c. 5 : 4
- d. 2 : 3

Answer- Coming Soon

Question 14:

The total number of people who read newspapers Q and R in city D is what percentage more than those who read newspapers P and S in city A? (correct to one decimal place)

- a. 12.5%
- b. 13.2%
- c. 11.1%
- d. 12.8%

Answer- Coming Soon

Question 15:

The average number of people who read newspapers Q and S in city B is what percentage is less than the average number of people who read newspapers Q, R and S in city E? (correct to one decimal place)

- a. 39.2%
- b. 38.5%
- c. 64.8%
- d. 35.2%

Answer- Coming Soon

Verbal

Question 1.

Lower taxes will be an incentive to work harder

- a. Motivation
- b. Occupation
- c. Asset
- d. Privilege

Answer - motivation

Question :

Read the passage below and answer the questions that follow:

The major motive for excuses-making seems to be to maintain our self-esteem, to project a positive image to ourselves and to others. Excuses are also offered to reduce stress that may be created by a bad performance. We feel that if we can offer an excuse- especially a good one that is accepted by those around us- it will lessen the negative reaction and the subsequent stress that accompanies poor performance.

Which of the statements below can be inferred from the passage?

- a) Excuses are face-saving devices.
- b) The habit of making excuses reduces one's potential.
- c) We make excuses when we are under stress.
- d) We are afraid of making mistakes and being criticized.

Answer - Option A

Excuses are face-saving devices.

Question:

Select the most appropriate option that can substitute the underlined words in the given sentence.

Education, experience and references are some of the standards on which a judgement is based when selecting candidates for job

- a. Paradigm
- b. Criteria
- c. Agenda
- d. Statutes

Answer - criteria

Coding:

Question1 :

Given a sentence `cstr`, written in a camel case (i.e. every word starts with an uppercase letter and there is no space or punctuation between two consecutive words). The task is to put one space after every word and convert every uppercase letter to lowercase.

Example 1:

Input :

ThisIsAnAutomationEra

Output:

this is an Automation Era--- Value of `cstr`

Output:

this is an automation era

Example 2:

Input:

HeyYou--- Value of `cstr`

Output:

hey you

Constraints:

- The string cannot contain space.
- Size of `cstr` ≤ 500

Input format for testing:

- The candidate has to write the code to accept a single string `cstr` consisting of only letters of the alphabet with no space.

Output format for testing:

- The output should be a string only. (See the output format in Example 1 and Example 2)
- Additional messages in the output will result in the failure of your test cases.

Instructions:

- The System does not allow any kind of hard-coded input value/values.
- The written program code by the candidate will be verified against the input which is supplied from the system.

Solution in C++:

```
#include<bits/stdc++.h>
using namespace std;

int main(){

    string cstr;
    cin>>cstr;

    string res="";

    for(int i=0; i<cstr.size(); i++){

        if( 'A'<=cstr[i] and cstr[i]<='Z')
        {
            if(i!=0)
                res += " ";

            res += (cstr[i] + 32);
        }

        else res += cstr[i];

    }

    cout<<res;

    return 0;
}
```

Question 2:

A company is organizing a fun game for its employees. N number of employees are participating in this game. Each employee can either compete in the game as an individual or as a pair with another employee. The task is to find the number of different ways in which N number of employees can be single or can be paired up.

Condition:

- If the total count of employees is odd, then pairing is not allowed.
- If the total count of employees is even, then employees can be single or can be paired up.

Instructions:

- Each employee can be paired only once.
- Each employee can only compete once

Example 1:

Input:

3---- Number of employees

Output:

1

Explanation:

N= 3 i.e, Odd Number

[1],[2],[3]: all employees are single.

Example 2:

Input:

4--- Numbers of employees

Output:

10

Explanation:

N= 4 i.e, Even Number

[1],[2],[3],[4]: all employees are single.

[1],[2,3],[4]: 3 and 4 are paired but 1 and 2 are single

[1,2],[3],[4]: 2 and 3 are paired but 1 and 4 are single

[1,3],[2],[4]: 1 and 3 are paired but 2 and 4 are single

[1,4],[2],[3]: 1 and 4 are paired but 2 and 3 are single

[2,4],[3],[1]: 2 and 4 are paired but 3 and 1 are single

[1,2], [3,4] : pairs of 1 and 2, 3 and 4

[1,3], [2,4] : pairs of 1 and 3, 2 and 4

[1,4], [2,3] : pairs of 1 and 4, 2 and 3

Note: [2,3] and [3,4] are considered the same

Constraints:

- $1 < N \leq 10$

Input Format for testing:

- The Candidate has to write the code to accept a positive integer number representing count of employees

Output Format for testing:

- The output should be a positive integer only. (See the output format in example).
- Additional messages in the output will result in the failure of test cases.

Instructions:

- The System does not allow any kind of hard-coded input value/values.
- The written program code by the candidate will be verified against the input which are supplied from the system.

Solution in C++:

```
#include<bits/stdc++.h>
```

```
using namespace std;
```

```
int count_ways( int N){
```

```
    if(N%2!=0)
```

```
        return N;
```

```
    int t[N+1];
```

```
    for(int i=0; i<=N; i++)
```

```
    {
```

```
        if(i<=2)
```

```
            t[i]=i;
```

```
        else t[i] = t[i-1] + (i-1)*t[i-2];
```

```
    }
```

```
    return t[N];  
}  
  
int main(){  
    int N;  
  
    cin>>N;  
  
    int res = count_ways(N);  
    cout<<res;  
  
    return 0;  
}
```