CTS - September 01,02,03 Test 2

Test Summary

- No. of Sections: 4
- No. of Questions: 67
- Total Duration: 89 min

Section 1 - Quantitative Ability

Section Summary

- No. of Questions: 16
- Duration: 16 min

Additional Instructions:

None

Q1. The number 2594* is completely divisible by 6. The smallest value of * can be:

- 0
- 2
- 4
- 6

Q2. A certain sum of money amounts to Rs 2500 in a span of 5 years and further to Rs 3000 in a span of 7 years at SI. Find the sum?

- 1000
- 1200
- 1050
- 1250

Q3. A vendor sells 50 percent of apples he had and throws away 20 percent of the remainder. Next day he sells 60 percent of the remainder and throws away the rest. What percent of his apples does the vendor throw?

- None of these
- 26
- 20
- 22

Q4. A water pump takes 6 hrs to fill an overhead tank.Standby pump takes 10 hrs to fill the same overhead tank.If first pump fails 2 hrs then how long will the standby pump take to fill the over head tank?

6 hrs

8 2/3 hrs

8 hrs

6 2/3 hrs

Q5. Ramesh, Abhijeet and Ajay are eligible to be the captain of the cricket team. Shad , John , Shisir and Nithin are eligible to be the co-captain. How many possible outcomes are there for choosing a captain and a co-captain ?

12

7

5

9

Q6. The correct relationship after eliminating x, y and z from x + y = a, y + z = b, z + x = c and x + y + z = m is:

m = x + y + z

2m = a + b + c

m = x - y -z

2m = x - y –z

None of the above

Q7. Three successive discounts of 6%, 10%, 15% are equal to a single discount of

25%

28.90%

30%

31%

28.09%

Q8. Identify the set of all the positive integers.

{0,1, 2, 3,---)

{1, 2, 3, 4, ...)

{2, 4, 6, 8, ..}

{2, 5, 7, 11, ...}

Q9. The product of two numbers is 2208. If the LCM of the numbers is 552. What is their I-ICF?

12

4

24

0

Q10. The simple Interest earned on a certain amount is double the money when invested for 15 years. What interest rate is offered?

26.66 %

12 %

30 %

13.33 %

Q11. Which of the following is true for the value of 0.999….?

a. It is equal to 1

b. It is less than 1

c. It is equal to 0.9

d. None of the above

Q12. What sum of money will accumulate Rs. 5300 at 8% interest in 9 months?

5000

5400

4500

4000

Q13. a, b, and c are such that b is the simple interest on a, and c is the simple interest on b for the same period and same rate of interest. The relation between these three is:

$a^2 = b$

$c^2 = ab$

$b^2 = ac$

a = b = c

Q14. A shopkeeper offers 'Buy 1, Get 1 Free' offer on a t-shirt marked at Rs. 2,400. If after a sale, the shopkeeper earns a profit of 33.33%, then what is the actual price of the t-shirt?

rs.900

rs. 800

rs.1,200

rs.1,000

rs.1,500

Q15. 47,322 bulbs are to be packed in several boxes. Each box should contain equal numbers of bulbs and no bulb should be left unpacked. Number of boxes used can be:

a) 12

b) 11

c) 8

d) 14

Q16. Find x: (2/7)-8 (7/2)-2= (2/7)2x

a. 3

b. -3

c. -6

d. 2

Section 2 - Logical Ability

Section Summary

- No. of Questions: 22
- Duration: 35 min

Additional Instructions:

None

Q1.

Six friends P, Q, R, S, T and U are members of a club and play a different game of Football, Cricket, Tennis, Basketball, Badminton and Volleyball.

(ii) T who is taller than P and S plays Tennis.

(Iii) The tallest among them plays Basketball.

(iv) The shortest among them plays Volleyball.

(v) Q and S neither play Volleyball nor Basketball.

(vi) R plays Volleyball.

(vii) T is between U who plays Football and P in order of height.

Who among them plays basketball?

Q

R

S

U

NONE

Q2.

Six friends P, Q, R, S, T and U are members ofa club and play a different game of Football, Cricket, Tennis, Basketball, Badminton and Volleyball.

(ii) T who is taller than P and S plays Tennis .

(Iii) The tallest among them plays Basketball .

(iv) The shortest among them plays Volleyball .

(v) Q and S neither play Volleyball nor Basketball.

(vi) R plays Volleyball .

(vii) T is between U who plays Football and P in order of height.

Who will be at the third place if they are arranaged in descending order of heights?

Q

P

S

T

NONE

Q3.

Six friends P, Q, R, S, T and U are members of a club and play a different game of

Football, Cricket, Tennis, Basketball, Badminton and Volleyball.

(ii) T who is taller than P and S plays Tennis.

(Iii) The tallest among them plays Basketball.

(iv) The shortest among them plays Volleyball.

(v) Q and S neither play Volleyball nor Basketball.

(vi) R plays Volleyball.

(vii) T is between U who plays Football and P in order of height.

Which of the given statements is not true?

P is shorter than R

Q is taller than S

T is taller than R

U is taller than Q

S is taller than R

Q4.

Six friends P, Q, R, S, T and U are members of a club and play a different game of Football, Cricket, Tennis, Basketball, Badminton and Volleyball.

(ii) T who is taller than P and S plays Tennis .

(Iii) The tallest among them plays Basketball .

(iv) The shortest among them plays Volleyball .

(v) Q and S neither play Volleyball nor Basketball.

(vi) R plays Volleyball .

(vii) T is between U who plays Football and P in order of height .

Who amongst the following is taller than R but shorter than P?

Q

T

U

Data Inadequate

None of these

Q5. Odd Man Out

A. Excited

B. Ecstatic

C. Elated

D. Excluded

Q6.

Decode the word(s) / pattern given in the question

If 1022834 represents VACCINE, which word is represented by 4820548?

a. ECHELON

b. ECLIPSE

c. ESCAPES

d. ESTIMATE

Q7. **Read the passage carefully and select the statement that can be inferred from it.**

E-mail over load has of-late become a great cause of concern in an organisation. We have reached a stage where our email habits controls us. We are obsessed with checking our mails every now and then. We feel bored of working and we glance into our mailbox hoping to have received “scintillating” mail. Obviously, it also gives us an illusionary impression that we working. Not missing any mail and replying to each one of them has become a custom. Our addiction to this leading to our ignorance of deadline, meetings, personal chit chat, with fellow employees. It is a shame that we have inculcated a habit of reading mails but not taking timely action on mails.

a.Employees find reading mails to be more interesting than working

b.Replying each and every mail is not a good habit

c.Addiction of reading and replying to every mail may have adverse effect on our performance

d.All mails are sent on the premise that timely action taken on them.

Q8.

1. **Given signs signify something and on that basis, assume the given statement to be true. Answer the question basis the information provided**.
'!' denotes "greater than"
'*' denotes "equal to"
'+' denotes "less than"
'$' denotes "not equal to"
'x' denotes "not less than"
'%' denotes "not greater than"

then A!B!C does not imply

a. B+A!C

b. C+B+A

c. C+A!B

d. B+A+C

Q9. 1. Odd man out

a. AE5

b. DF6

c. HN14

d. KF18

Q10. Rahul went to his mother's, mother in law's , only son's, daughter's ,husband's, son's ,maternal uncle and asked for some money . How is the person related to Rahul?

a. Brother

b. Cousin

c. Uncle

d. Father

Q11. In the following question @, #, %, * and $ are used according to following meaning
'P @ Q' means,'P is neither smaller nor equal to Q '
'P # Q' means,'P is not smaller than Q'
'P % Q' means,'P is not greater than Q'
'P * Q' means,'P is neither smaller nor greater than Q'
'P $ Q' means,'P is neither greater nor equal to Q'

Statements
R#D ,D@C ,C#P

Conclusions
I.R@P II.D*P III.P%D

only conclusion 1 is true

only conclusion 2 is true

only conclusion 3 is true

both conclusion 1 and 3 are true

None Of these

Q12. Akash saw his sister's son's maternal aunt's husband's mother-in-law's granddaughter of her only son on the other side of the road. Whom did Akash see?

Aunt

Sister

Daughter

Sister-in-law

Q13. Arrange the words in a logical order.
1.Community
2.Locality
3.Family
4.Country
5.Person

a. 4,1,2,3,5

b. 4,2,1,3,5

c. 5,3,2,1,4

d. 5,3,4,2,1

Q14. A17R : D12P :: G7N : ?

a. H2K

b. J3M

c. J2L

d. H3K

Q15. Four working ladies **A, B, C and D** sitting around a table
A sits opposite to the cook
B sits on the right side of the beautician
Teacher is on the left side of an accountant.
D sits opposite to C
C is to the right of the accountant
What is the occupation of C?

a. Beautician

b. Teacher

c. Accountant

d. Cook

Q16. 79 , 64 , 26 , 15 , ____

a. 9

b. 6

c. 10

d. 8

Common Content:

There are 4 questions based on the same puzzle. Answer the questions based on the given information.

Four working ladies A, B, C and D sitting around a table
i) A sits opposite to the cook
ii) B sits on the right side of the beautician
iii) Teacher is on the left side of an accountant.
iv) D sits opposite to C
v) C is to the right of the accountant

Q17. What are the occupations of A and B?

a. Accountant and Beautician

b. Accountant and cook

c. Accountant and teacher

d. Teacher and cook

Q18. who is sitting to the left of beautician ?

a. cook

b. accountant

c. teacher

d. None of these

Q19.

What are the occupations of A and B?

a. Accountant and Beautician

b. Accountant and cook

c. Accountant and teacher

d. Teacher and cook

Q20. What is the occupation D?

a. Accountant

b. Beautician

c. Teacher

d. Cook

Q21. What is the occupation D?

a. Accountant

b. Beautician

c. Teacher

d. Cook

Q22.

What is the occupation of C?

a. Beautician

b. Teacher

c. Accountant

d. Cook

Section 3 - Verbal Ability

Section Summary

- No. of Questions: 22
- Duration: 18 min

Additional Instructions:

None

Q1. New concerns about growing religions tension in northern india were _____this week after atleast fifty people were killed and hundreds were injured or arrested in riots between hindus and muslims.

A. Lessened

B. Invalidated

C. Restrained

D. Dispersed

Q2. 1. Funds are scarce, so ____ are needed to re-build homes destroyed by the flood.

1) Patience

2) Volunteers

3) Workers

4) Materials

Q3. 1. The rival team won the match _____they played well

1) but

2) because

3) and

4) for

Q4. Ali is the fastest runner …… all the students.

1) between

2) in middle of

3) among

4) in between

Q5. MIGRANT (opposite)

1) Foreigner

2) Industrious

3) Native

4) Lazy

Q6. NOMINAL(synonym)

a. Significant

b. Minimal

c. Actual

d. Dear

Q7. The new television set was delivered _____ a damaged condition.

a. From

b. At

c.On

d. In

Q8. One-fifth of the population _____ to visit the new museum.

a. were going

b. is going

c. have gone

d. go

Q9. DIASPORA(antonym).

spread

movement

focus

scattering

Q10. **Arrange the parts labelled as P, Q, R, S to make the correct sentence.**
It was
P: In keeping with mood
Q: a soft summer evening
R: as i walked sedately
S: in the direction of the new house

1) SRPQ

2) QRPS

3) QPRS

4) SQPR

Common Content:

Read the passage and answer the questions given below.

My cell phone rings again. It is futile to ignore it anymore; Valerie is persistent. When Valerie wants something, she will continue to bedevil me until I acquiesce.

”Hello,” I answer.

“State Fair, Bobbie?” she asks in her singsong voice. “When are we heading out? Only two more days left!”

I abhor the State Fair. The boisterous crowds, the insanely long lines and the impossibility of finding a clean restroom all combine to ma this an event that I dread.

For Valerie, my best friend since the angst of middle school, the State Fair is a sign that divine powers really do exist.

"Really, Bobbie, where else can you pet a cow, ride a horse, fall ten stories, see the world's smallest person and eat fried macaroni and cheese?" Valerie asks gleefully.

"Hell?" I guess.

The fried food at the State Fair is a gastronomical nightmare on its own. I once tried a fried pickle at the fair and was sick to my stomach for hours. And a fried donut hamburger with bacon, cheese AND a greasy egg? How could that not be deleterious?

I have not seen Valerie for a good month; our schedules are both so hectic. My hatred of the State Fair becomes inconsequential compared to my desire to **hang** with Val.

Alas, I ignore my anti-fair bias for the umpteenth year.

"Pick me up at noon," I say and hang up the phone
.

Q11. **" I abhor the State Fair."**
Which of the following is the best way to rewrite the above sentence (from paragraph 4) while keeping its original meaning as used in the story?
A. I really dislike the State Fair.
B. I am bored by the State Fair.
C. I have no time for the State Fair.
D. I am uncertain about the State Fair.

A

B

C

D

Q12. Logically speaking, which of the following might otherwise be included in Bobbie's description of foods to be found at the state fair?
I. Fried candy bars.
II. Candy apples.
III. Ripe red tomatoes

I

I & II

II & III

I, II, & III

Q13. Valerie regards the state fair with,

ambivalence

condescension

jubilance

nonchalance

Q14. What does it mean to acquiesce?

to give in.

to speak kindly

to pay attention

to answer the phone

Q15. What does the term gastronomical suggest?

Enormous

Health risk

Culinary issue

Resulting in gas

Q16. Which is the best antonym for deleterious?

amicable

beneficial

fortuitous

pathetic

Q17. Which is the best synonym for **futile**?

arduous

enervating

preposterous

ineffective

Q18. Why might the author have chosen to capitalize all the letters in the word “AND” when writing about the donut hamburger in paragraph 8?

To make sure the reader understood it was a list

To show that a greasy slice of cottage cheese was the last ingredient

To highlight her dislike of greasy slice of cottage cheese

To emphasize how many ingredients were in the burger

Common Content:

Read the passage and answer the questions given below

Indian government's intention of introducing caste based quotas for the 'Other Backward Classes' in centrally funded institutions of higher learning and the prime minister's suggestion to the private sector to 'voluntarily go in for reservation', has once again sparked off a debate on the merits and demerits of caste-based reservations. Unfortunately, the predictable divide between the votaries of 'social justice' on one hand and those advocating 'merit' on the other seems to have once again camouflaged the real issues. It is necessary to take a holistic and non-partisan view of the issues involved.

The hue and cry about sacrificing merit is untenable simply because merit is after all a social construct and it cannot be determined objectively in a historically unjust and unequal context. The idea of competitive merit will be worthy of serious attention only in a broadly egalitarian context. But then, caste is not the only obstacle in the way of an egalitarian order. After all, economic conditions, educational opportunities and discrimination on the basis of gender also contribute to the denial of opportunity to express one's true merit and worth. It is interesting to note that in the ongoing debate, one side refuses to see the socially constructed nature of the notion of merit, while the other side refuses to recognise the multiplicity of the mechanisms of exclusion with equal vehemence.

The idea of caste-based reservations is justified by the logic of social justice. This implies the conscious attempt to restructure a given social order in such a way that individuals belonging to the traditionally and structurally marginalised social groups get adequate opportunities to actualise their potential and realise their due share in the resources available. In any society, particularly in one as diverse and complex as the Indian society, this is going to be a gigantic exercise and must not be reduced to just one aspect of state policy. Seen in this light, caste-based reservation has to work in tandem with other policies ensuring the elimination of the structures of social marginalisation and denial of access. It has to be seen as a means of achieving social justice and not an end in itself. By the same logic it must be assessed and audited from time to time like any other social policy and economic strategy.

Hence, it is important, to discuss reservation in the holistic context of much required social restructuring and not to convert it into a fetish of 'political correctness'. Admittedly, caste remains a social reality and a mechanism of oppression in Indian society. But can we say that caste is the only mechanism of oppression? Can we say with absolute certainty that poverty amongst the so-called upper castes has been eradicated? Can we say that the regions of Northeast, Jharkhand, Chattisgarh are on par with the glittering metros of Delhi and Mumbai? Can we say that a pupil from a panchayat school in Bihar is equipped to compete with an alumnus of Doon School on an equal footing, even if both of them belong to the same caste group? One of my students once remarked that he was regularly compelled to swim across a rivulet in order to reach his school, and the rivulet in question did not distinguish between Brahmins and dalits.

Q19. Sacrificing means referring to

- killing merit
- selection on the basis of merit
- encouraging reservation
- None of These.

Q20. What do you mean by the word 'Egalitarian'?

- characterized by belief in the equality of all people
- characterized by belief in the inequality of all people
- another word for reservations
- growth

Q21. What does the statement "and not to convert it into a fetish of 'political correctness'" in the passage imply?

Reservation issue should not be converted into a political propaganda.

Reservation issue should not be based on caste alone.

Reservation issue should be left to the ruling government

None of these

Q22. What is the author most likely to agree with?

Caste-based reservation is the answer to India's problems.

Gender-based reservation is the answer to India's problems.

There is no solution to bridge the gap between privileged and under-privileged.

None of these

Section 4 - Automata Fix

Section Summary

- No. of Questions: 7
- Duration: 20 min

Additional Instructions:

None

Q1. 1. You are given a predefined class **Point** containing a collection of methods to perform some basic operations.

You will have to implement the function **isTriangle(Point p1,Point p2,Point p3)** which accepts 3 points as input and checks whether the given 3 points form the vertices of a triangle

If they form a triangle the function returns 1 else it returns 0

You are supposed to use **Point** structure and associated methods for the task.

PROGRAM:

```
public class Triangle
{
public static int isTriangle(point p1,point p2,point p3)
{
//write your code here
return 0;
}
}
```

Sample Input

```
4 5 6
```

Sample Output

```
Valid
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q2. Mr. Jason has captured your friend and has a collar around his neck. He has locked the collar with a given “locking key". Now it can only be opened with an “unlocking key”. Your friend sees the locking key but he does not know how to find the unlocking key. You can calculate the unlocking key if you have the locking key, because the unlocking key will be the smallest (in magnitude) permutation of the digits of the locking key and will never start with zero.

Help your friend write an algorithm that outputs the unlocking key by taking key as an input
Input
The input to the function/method consists of an argument lockingkey, an integer representing the locking key.

Output
Return an integer representing the unlocking key

Constraints
-10^7 <= lockingkeys <= 10^7

Note
A possible answer exists for each input.

TestCase 1:
Input:
310
Expected Output:
103

TestCase 2:
Input:
918
Expected Output:
189

Sample Input

```
62154
```

Sample Output

```
12456
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q3. The function/method ***rotateList*** accepts three arguments as inputs - an integer size, an integer k and a node list_head representing size of the list, the rotation index value and the head node of the linked list, respectively.
It is supposed to rotate the linked list in the counterclockwise direction from the kth node
The function/method compiles successfully but fails to return the desired result for some test cases. Your task is to fix the code so that it passes all the test cases
Note
0<= k <= size

Sample Input

```
6 2
1 2 3 4 5 6
```

Sample Output

```
1 6 5 4 3 2
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q4. Given two integers **A** and **B**. The task is to count how many numbers in the interval **[A, B]** have an odd number of divisors. Complete logic is provided in the function **OddDivCount(int a,int b) ,** find the logical error and fix it

Examples:

Input : A = 1, B = 10
Output : 3

Input : A = 5, B = 15
Output : 1

```
#include<stdio.h>
int OddDivCount(int a, int b)
{
     int res = 0;
```

```
for (int i = a; i <= b; ++i) {
int divCount = 0;
for (int j = 1; j <= b; ++j) {
if (i % j == 0) {
++divCount;
}
}
if (divCount % 2) {
++res;
}
}
return res;
}
int main()
{
    int a, b;
printf("%d",OddDivCount(a,b));
    return 0;
}
```

Sample Input

```
10 20
```

Sample Output

```
1
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q5. Check whether the below program print the below pattern. If not rectify the program in the editor below.

Input: 3

Output:

1111
222
33

```
void main()
{
int i, j, n;
scanf(“%d”, &n);
for(i = 1; i<n; i++)
{
for(j = 1; j<n; j++)
{
printf(“%d”, i);
}
printf(“\n”);
}
}
```

Sample Input

```
3
```

Sample Output

```
1111
222
33
```

Time Limit: 2 ms Memory Limit: 256 kb Code Size: 256 kb

Q6. A ternary search tree is defined as a ternary tree in which a search, proceed character by character, compares the current character in the search string with the character at the current node if the search character is lexicographically larger , the search goes to the right child. When the search character is equal, the search goes to the middle child and proceeds to the next character in the search string. For example, ternary search tree for strings **cat, cats, up, bug**.
The function/method **insertIntoTernaryTree** accepts three arguments – tree representing a ternary tree, inputStr, a String representing the index of the current character in inputStr. The function/method is supposed to return the ternary tree node after inserting the word into the tree. Complete the function **insertIntoTernaryTree.**

PROGRAM :

```
#include <stdio.h>
#include <stdlib.h>
#define MAX 50
struct Node
{
    char data;
    unsigned isEndOfString: 1;
```

```
    struct Node *left, *eq, *right;
};
struct Node* newNode(char data)
{
    struct Node* temp = (struct Node*) malloc(sizeof( struct Node ));
    temp->data = data;
    temp->isEndOfString = 0;
    temp->left = temp->eq = temp->right = NULL;
    return temp;
}
void insert(struct Node** root, char *word)
{
   // code here
}
void traverseTSTUtil(struct Node* root, char* buffer, int depth)
{
    if (root)
    {
        traverseTSTUtil(root->left, buffer, depth);
        buffer[depth] = root->data;
        if (root->isEndOfString)
        {
            buffer[depth+1] = '\0';
            printf( "%s\n", buffer);
        }
        traverseTSTUtil(root->eq, buffer, depth + 1);
        traverseTSTUtil(root->right, buffer, depth);
    }
}
void traverseTST(struct Node* root)
{
    char buffer[MAX];
    traverseTSTUtil(root, buffer, 0);
}
int searchTST(struct Node *root, char *word)
{
    if (!root)
        return 0;

    if (*word < (root)->data)
        return searchTST(root->left, word);

    else if (*word > (root)->data)
        return searchTST(root->right, word);

    else
    {
        if (*(word+1) == '\0')
            return root->isEndOfString;

        return searchTST(root->eq, word+1);
    }
}
int main()
{
    struct Node *root = NULL;

        insert(&root, "cat");
        insert(&root, "cats");
        insert(&root, "up");
        insert(&root, "bug");

        printf("Following is traversal of ternary search tree\n");
        traverseTST(root);

        printf("\nFollowing are search results for cats, bu and cat respectively\n");
        searchTST(root, "cats")? printf("Found\n"): printf("Not Found\n");
        searchTST(root, "bu")? printf("Found\n"): printf("Not Found\n");
        searchTST(root, "cat")? printf("Found\n"): printf("Not Found\n");

        return 0;
}
```

Sample Input

Sample Output

```
Following is traversal of ternary search tree
bug
cat
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q7. The function **patternPrint(int n)** supposed to print n numberof lines in the following pattern
For n=4 the pattern should be:

```
1
1 1
1 1 1
 1 1 1 1
```

Complete the function **patternPrint(int n)** to get the desired output

PROGRAM

```
#include<stdio.h>
void patternPrint(int num)
{
// write here
}
int main()
{
   int n;
   scanf("%d",&n);
   patternPrint(n);
}
```

Sample Input

```
5
```

Sample Output

```
1
11
111
1111
```

Time Limit: 2 ms Memory Limit: 256 kb Code Size: 256 kb

Answer Key & Solution

Section 1 - Quantitative Ability

Q1

4

Solution

No Solution

Q2

1250

Solution

No Solution

Q3

26

Solution

No Solution

Q4

6 2/3 hrs

Solution

No Solution

Q5

12

Solution

No Solution

Q6

2m = a + b + c

Solution

No Solution

Q7

28.09%

Solution

No Solution

Q8

{1, 2, 3, 4, ...)

Solution

No Solution

Q9

4

Solution

No Solution

Q10

13.33 %

Solution

No Solution

Q11

b. It is less than 1

Solution

No Solution

Q12

5000

Solution

No Solution

Q13

$b^2 = ac$

Solution

No Solution

Q14

rs.900

Solution

No Solution

Q15

b) 11

Solution

No Solution

Q16

b. -3

Solution

No Solution

Section 2 - Logical Ability

Q1

U

Solution

No Solution

Q2

P

Solution

No Solution

Q3

P is shorter than R

Solution

No Solution

Q4

Q

Solution

No Solution

Q5

D. Excluded

Solution

No Solution

Q6

c. ESCAPES

Solution

No Solution

Q7

c.Addiction of reading and replying to every mail may have adverse effect on our performance

Solution

No Solution

Q8

d. B+A+C

Solution

No Solution

Q9

d. KF18

Solution

No Solution

Q10

a. Brother

Solution

No Solution

Q11

only conclusion 1 is true

Solution

No Solution

Q12

Daughter

Solution

No Solution

Q13

c. 5,3,2,1,4

Solution

No Solution

Q14

c. J2L

Solution

No Solution

Q15

a. Beautician

Solution

No Solution

Q16

a. 9

Solution

No Solution

Q17. b. Accountant and cook

Solution

No Solution

Q18. b. accountant

Solution

No Solution

Q19. b. Accountant and cook

Solution

No Solution

Q20. c. Teacher

Solution

No Solution

Q21. c. Teacher

Solution

No Solution

Q22. a. Beautician

Solution

No Solution

Section 3 - Verbal Ability

Q1 D. Dispersed

Solution

No Solution

Q2 2) Volunteers

Solution

No Solution

Q3

2) because

Solution

No Solution

Q4

3) among

Solution

No Solution

Q5

3) Native

Solution

No Solution

Q6

b. Minimal

Solution

No Solution

Q7

d. In

Solution

No Solution

Q8

c. have gone

Solution

No Solution

Q9

focus

Solution

No Solution

Q10 3) QPRS

Solution

No Solution

Q11. A

Solution

No Solution

Q12. I

Solution

No Solution

Q13. jubilance

Solution

No Solution

Q14. to give in.

Solution

No Solution

Q15. Culinary issue

Solution

No Solution

Q16. beneficial

Solution

No Solution

Q17. ineffective

Solution

No Solution

Q18. To emphasize how many ingredients were in the burger

Solution

No Solution

Q19. encouraging reservation

Solution

No Solution

Q20. characterized by belief in the equality of all people

Solution

No Solution

Q21. Reservation issue should not be based on caste alone.

Solution

No Solution

Q22. None of these

Solution

No Solution

Section 4 - Automata Fix

Q1

Test Case

Input	Output
1 9 26	Invalid

Weightage - 50

Input	Output
4 8 12	Invalid

Weightage - 25

Input	Output
6 7 8	Valid

Weightage - 25

Sample Input

```
4 5 6
```

Sample Output

```
Valid
```

Solution

Header

```
#include<stdio.h>
int checkValidity(int a, int b, int c)
{
    if (a + b <= c || a + c <= b || b + c <= a)
        return 0;
    else
        return 1;
```

Footer

```
}

int main()
{
    int a, b, c;
    scanf("%d %d %d",&a,&b,&c);
    if (checkValidity(a, b, c))
        printf("Valid");
    else
        printf("Invalid");
}
```

Q2

Test Case

Input

```
4856
```

Output

```
4568
```

Weightage - 20

Input

```
6489
```

Output

```
4689
```

Weightage - 20

Input

Output

3216	1236

Weightage - 30

Input	Output
31246	12346

Weightage - 30

Sample Input	Sample Output
62154	12456

Solution

Header

```
#include<stdio.h>
int unlock(int num)
{



  int arr[10],index=0,n,result=0,temp;
  int itr;
  while(num)
  {
    arr[index]=num%10;
    index++;
    num=num/10;
  }
  n=index;
  for(itr=1;itr<=n-1;itr++)
  {
for(index=1;index<n;index++)
{
  if(arr[index-1] > arr[index])
  {
    int temp=arr[index];
    arr[index]=arr[index-1];
    arr[index-1]=temp;
  }
}
}
index=0;
while(arr[index]==0)
  index++;
temp=arr[index];
arr[index]=arr[0];
arr[0]=temp;
for(index=0;index<n;index++)
{
  result=result*10+arr[index];
}
return result;
```

Footer

```
}
int main()
{
  int num,res;
  scanf("%d",&num);
  res=unlock(num);
  printf("%d",res);
  return 0;
}
```

Q3

Test Case

Input

```
7 4
17 649 393 9 2 7
```

Output

```
17 649 393 7 7 2 9
```

Weightage - 25

Input

```
6 5
1 7 9 45 5 45
```

Output

```
1 7 9 45 45 5
```

Weightage - 25

Input

```
10 2
1 5 4 5 9 8 6 32 8 4
```

Output

```
1 4 8 32 6 8 9 5 4 5
```

Weightage - 50

Sample Input

```
6 2
1 2 3 4 5 6
```

Sample Output

```
1 6 5 4 3 2
```

Solution

Header

```
#include<stdio.h>
#include<stdlib.h>
typedef struct node
{
  int data;
  struct node *next;
}NODE;
NODE *start;
void displaySLL()
{
```

```
  NODE *tptr;
  for(tptr=start;tptr!=NULL;tptr=tptr->next)
    printf("%d ",tptr->data);
  printf("\n");
}
void insertData(int givenData)
{
  struct node *newnode;
  NODE *tptr,*prev;
  newnode=(struct node *)malloc(sizeof(struct node));
  newnode->data=givenData;
  newnode->next=NULL;
  if(start==NULL)
  {
    start=newnode;
  }
  else
  {
    for(tptr=start;tptr!=NULL;prev=tptr,tptr=tptr->next);
      prev->next=newnode;
  }
}
void rotate(int n,int k,NODE *head)
{



  NODE *tptr,*prev,*safeNext,*safePrev;
  int count;
  tptr=head;
  for(count=1;count<k;count++)
  {
    prev=tptr;
    tptr=tptr->next;
  }
  safePrev=NULL;
  while(tptr!=NULL)
  {
    safeNext=tptr->next;
    tptr->next=safePrev;
    safePrev=tptr;
    tptr=safeNext;
  }
  prev->next=safePrev;
```

Footer

```
}
int main()
{
  int n,k,index,num;
  scanf("%d %d",&n,&k);
  for(index=0;index<n;index++)
  {
    scanf("%d",&num);
    insertData(num);
  }
  rotate(n,k,start);
  displaySLL();

  return 0;
```

```
}
```

Q4

Test Case

Input	Output
20 50	3

Weightage - 50

Input	Output
33 77	3

Weightage - 50

Sample Input	Sample Output
10 20	1

Solution

Header

```
#include<stdio.h>
int OddDivCount(int a, int b)
{



int OddDivCount(int a, int b)
{
    int res = 0;
    for (int i = a; i <= b; ++i) {
        int divCount = 0;
        for (int j = 1; j <= i; ++j) {
            if (i % j == 0) {
                ++divCount;
            }
        }
        if (divCount % 2) {
            ++res;
        }
    }
    return res;
}
int main()
{
    int a, b;
    scanf("%d%d",&a,&b);
    printf("%d",OddDivCount(a,b));
    return 0;
}
```

Footer

```
}
int main()
{
    int a, b;
    printf("%d",OddDivCount(a,b));
    return 0;
}
```

Q5

Test Case

Input

```
5
```

Output

```
111111
22222
3333
444
```

Weightage - 25

Input

```
9
```

Output

```
1111111111
222222222
33333333
4444444
```

Weightage - 25

Input

```
8
```

Output

```
111111111
22222222
3333333
444444
```

Weightage - 25

Input

```
20
```

Output

```
11111111111111111111
22222222222222222222
33333333333333333333
44444444444444444
```

Weightage - 25

Sample Input

```
3
```

Sample Output

```
1111
222
33
```

Solution

Header

```
#include<stdio.h>
int main()
{
```

```
    int i, j, n;
    scanf("%d", &n);
```

```
#include<stdio.h>
int main()
{
    int i, j, n;
    scanf("%d", &n);
    for(i = 1; i<=n; i++)
    {
        for(j = i-1; j<=n; j++)
        {
               printf("%d",  i);
        }
       printf("\n");
    }
}
```

Footer

```
}
```

Q6

Test Case

Input

Output

```
Following is traversal of ternary search tree
bug
cat
```

Weightage - 100

Sample Input

Sample Output

```
Following is traversal of ternary search tree
bug
cat
```

Solution

Header

```
#include <stdio.h>
#include <stdlib.h>
#define MAX 50
struct Node
{
    char data;
    unsigned isEndOfString: 1;
    struct Node *left, *eq, *right;
};
struct Node* newNode(char data)
{
    struct Node* temp = (struct Node*) malloc(sizeof( struct Node ));
    temp->data = data;
    temp->isEndOfString = 0;

    temp->left = temp->eq = temp->right = NULL;
    return temp;
```

```
    return temp;
}
void insert(struct Node** root, char *word)
{



    if (!(*root))
        *root = newNode(*word);
    if ((*word) < (*root)->data)
        insert(&( (*root)->left ), word);
    else if ((*word) > (*root)->data)
        insert(&( (*root)->right ), word);
    else
    {
        if (*(word+1))
            insert(&( (*root)->eq ), word+1);
        else
            (*root)->isEndOfString = 1;
    }
```

Footer

```
}
void traverseTSTUtil(struct Node* root, char* buffer, int depth)
{
    if (root)
    {
        traverseTSTUtil(root->left, buffer, depth);
        buffer[depth] = root->data;
        if (root->isEndOfString)
        {
            buffer[depth+1] = '\0';
            printf( "%s\n", buffer);
        }
        traverseTSTUtil(root->eq, buffer, depth + 1);
        traverseTSTUtil(root->right, buffer, depth);
    }
}
void traverseTST(struct Node* root)
{
    char buffer[MAX];
    traverseTSTUtil(root, buffer, 0);
}
int searchTST(struct Node *root, char *word)
{
    if (!root)
        return 0;

    if (*word < (root)->data)
        return searchTST(root->left, word);

    else if (*word > (root)->data)
        return searchTST(root->right, word);

    else
    {
        if (*(word+1) == '\0')
            return root->isEndOfString;

        return searchTST(root->eq, word+1);

    }
}
```

```
}
int main()
{
    struct Node *root = NULL;

    insert(&root, "cat");
    insert(&root, "cats");
    insert(&root, "up");
    insert(&root, "bug");

    printf("Following is traversal of ternary search tree\n");
    traverseTST(root);

    printf("\nFollowing are search results for cats, bu and cat respectively\n");
    searchTST(root, "cats")? printf("Found\n"): printf("Not Found\n");
    searchTST(root, "bu")? printf("Found\n"): printf("Not Found\n");
    searchTST(root, "cat")? printf("Found\n"): printf("Not Found\n");

    return 0;
}
```

Q7

Test Case

Input

```
6
```

Output

```
1
11
111
1111
```

Weightage - 50

Input

```
20
```

Output

```
1
11
111
1111
```

Weightage - 50

Sample Input

```
5
```

Sample Output

```
1
11
111
```

Solution

Header

```
#include<stdio.h>
void patternPrint(int num)
{


    for(int i=0;i<num;i++){
        for(int j=0;j<=i;j++){
            printf("1");
        }
```

```
            printf("\n");
        }
```

Footer

```
}
int main()
{
    int n;
    scanf("%d",&n);
    patternPrint(n);
}
```