

C programming

CSA0265

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TEAM 6

Forenoon

Question 1

The screenshot shows a programming environment interface. At the top left, there's a 'Questions' section for 'CEQ3' with the task: 'Write a program to reverse a number using loop?(Get the input from user)'. Below it are 'Sample Input' and 'Number: 14567' followed by 'Sample Output' and 'Reverse Number: 76541'. To the right is a 'Test Cases' table with 5 rows:

Test Case	Status
1. -5721	
2. 000	
3. AD1947	
4. 14565	
5. 12345678999-144855	

Below the test cases is a code editor window with the title 'Run' and 'Save' buttons. The code is:#include<stdio.h>
int main () {
 int n, reverse =0,remainder;
 printf("enter an integer: ");
 scanf("%d",&n);
 while(n !=0){
 remainder=n % 10;
 reverse=reverse *10+remainder;
 n/=10;
 }
 printf("Reversed number= %d\n",reverse);
 return 0;
}

To the right of the code editor is a status bar with 'AD1947'. At the bottom right is a purple box containing the text 'enter an integer; Reversed number= 974'.

Question 2

Find the nth odd number after n odd numbers.

Sample Input:
N : 4

Sample Output:
4th Odd number after 4 odd numbers = 15

CEQ30
CEQ31
CEQ32
CEQ33
CEQ34
CEQ35

The screenshot shows a C programming interface. On the left, there's a code editor with the following C code:

```
1. #include<stdio.h>
2. int main () {
3.     int n,count=0,odd=1;
4.     printf("enter n:\n");
5.     scanf("%d",&n);
6.     for(int count=0;count<=n;count++){
7.         odd+=2;
8.     }
9.     printf("the %dth odd number after %d odd numbers is %d\n",n,n,odd);
10.    return 0;
11. }
```

Below the code editor are two text boxes: one for "Sample Input" containing "N : 4" and another for "Sample Output" containing "4th Odd number after 4 odd numbers = 15". To the right of these is a vertical sidebar with several navigation links: CEQ30, CEQ31, CEQ32, CEQ33, CEQ34, and CEQ35. At the bottom right of the sidebar is a "Logout" button.

Question 3

Questions
CEQ40.

Write a program to arrange the letters of the word alphabetically in reverse order.

Sample Input:
Enter the word : MOSQUE

Sample Output:
Alphabetical Order: U S Q O M E

Test Cases

1. HYPERVENTILATION	CEQ37
2. HYPERVENTILATION	CEQ38
3. MANIPULATION	CEQ39
4. SATISFACTION	CEQ41
5. DEDICATION	CEQ42

The screenshot shows a C programming environment. The code is as follows:

```

1. #include <stdio.h>
2. #include <string.h>
3.
4. int main() {
5.     char word[100];
6.     printf("Enter a word: ");
7.     scanf("%s", word);
8.
9.     int n = strlen(word);
10.
11.    for(int i = 0; i < n-1; i++) {
12.        for(int j = 0; j < n-1-i; j++) {
13.            if (word[j] < word[j+1]) {
14.                char temp = word[j];
15.                word[j] = word[j+1];
16.                word[j+1] = temp;
17.            }
18.        }
19.    }
20.
21.    printf("Letters arranged alphabetically in reverse order: ");
22.    for (int i = n-1; i >= 0; i--) {
23.        printf("%c", word[i]);
24.    }
25.    printf("\n");
26.
27.    return 0;
}

```

The test case for "DEDICATION" is shown with a green checkmark indicating it has passed. The output window shows the expected result: "Enter a word: Letters arranged alphabetically in reverse order: ACDDE!NOT".

Question 4

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. [Enable Editing](#)

Given number is Armstrong number

C Run Save 370 Logout

```
1. #include <stdio.h>
2. #include <math.h>
3.
4. int main()
5. {
6.     int num,originalNum, remainder, n = 0;
7.     float result = 0.0;
8.
9.     printf("Enter an integer: ");
10.    scanf("%d", &num);
11.
12.    originalNum = num;
13.
14.    while (originalNum != 0)
15.    {
16.        originalNum /= 10;
17.        ++n;
18.    }
19.    originalNum = num;
20.
21.    while(originalNum != 0)
22.    {
23.        remainder = originalNum % 10;
24.        result += pow(remainder, n);
25.        originalNum /= 10;
26.    }
27.
28.    if ((int)result == num)
29.        printf("%d is an Armstrong number.",num);
30.    else
31.        printf("%d is not an Armstrong number.", num);
32.
33.    return 0;
34. }
```

Enter an integer: 370 is an Armstrong number.

Question 5

Questions
QEQ38.

Write a program to print the below pattern.

```
2 2
3 3 3
4 4 4 4
3 3
2 2
1
```

C Run Save Logout

Your Input Goes Here...!!!

```
#include <stdio.h>
void print_pattern(int n) {
    for (int i = 1; i <= n; i++) {
        for (int j = 0; j < i; j++) {
            printf("%d ", i);
        }
        printf("\n");
    }
}
int main() {
    print_pattern(4);
    return 0;
}
```

1
2 2
3 3 3
4 4 4 4
3 3
2 2
1

Question 6

Questions
Q348

write a program to find whether the person is eligible for vote or not. And if that particular person is not eligible, then how many years he needs to wait to be eligible.

Sample Input:
Enter your age?

Sample Output:
You are allowed to vote after 11 years

Test Cases

Input	Output
1. 25	2. Eighteen
2. 18	3. -18
4. -18	5. 18.5

Code Editor

```
#include <stdio.h>
int main()
{
    int age;
    printf("Enter your age:");
    scanf("%d", &age);
    if (age >= 18)
        printf("You are eligible to vote!\n");
    else
        int years_to_wait=18-age;
        printf("You are not eligible to vote.you can vote after %d years.\n", years_to_wait);
    }
    return 0;
}
```

25

Enter your age:You are eligible to vote!

Question 7

Questions
CEQ08.

Find the nth odd number after n odd number.

Sample Input:
n : 4

Sample Output:
4th odd number after 4 odd numbers = 15

Test Cases

Test Case	Input (n)	Output
1. N = 0	0	1
2. N = -6	-6	1
3. N = 2021	2021	4043
4. N = -14.5	-14.5	1
5. N = -190	-190	1

CEQ29
CEQ3
CEQ30
CEQ31
CEQ32
CEQ33
CEQ34
CEQ35

C Run Save Logout

```
1. #include<stdio.h>
2. int main(){
3.     int n, nthOddNum;
4.     printf("enter the value of n: ");
5.     scanf("%d", &n);
6.     nthOddNum = (n*2) + 1;
7.     printf("the %dth odd number after %d odd number is %d", n, n, nthOddNum);
8.     return 0;
9. }
```

0

enter the value of n: the 0th odd number after 0 odd number is 1

Question 8

Questions
CEQ35.

Write a program to find the number of composite numbers in an array of elements

Sample Input:
Array of elements = {16, 18, 27, 16, 23, 21, 19}

Sample Output:
Number of Composite Numbers = 5

Test Cases

Test Case	Output
1. Array of elements = {26, 28, 37, 26, 33, 31, 29}	0,160,180,270,160,230,210,190,0
2. Array of elements = {1, 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96, 104, 112, 120, 128, 136, 144, 152, 160, 168, 176, 184, 192, 196, 198, 200}	The number of composite numbers in the array is 4
3. Array of elements = {0, 160, 180, 270, 160, 210, 190, 0}	
4. Array of elements = {200, 180, 180, 270, 270, 270, 190, 200}	
5. Array of elements = {100, 180, 180, 100, 180, 100, 100, 100}	

C Run Save Logout

```

1. #include<stdio.h>
2. int isComposite(int num) {
3.     int i;
4.     for(i = 2; i <= num/2; i++) {
5.         if(num % i == 0) {
6.             return 1;
7.         }
8.     }
9.     return 0;
10. }
11. int main() {
12.     int arr[] = {26,28,37,26,33,31,29};
13.     int size = sizeof(arr)/sizeof(arr[0]);
14.     int i, count = 0;
15.     for(i = 0; i < size; i++) {
16.         if(isComposite(arr[i])) {
17.             count++;
18.         }
19.     }
20.     printf("The number of composite numbers in the array is %d", count);
21.     return 0;
22. }

```

Question 9

Questions
CEQ33.

Find the factorial of n?

Sample Input:
N = 6

Sample Output:
6 Factorial = 720

Test Cases

Test Case
1. N = 0
2. N = -5
3. N = 1
4. N = Q
5. N = 3A

CEQ28
CEQ3
CEQ30
CEQ31
CEQ32
CEQ34
CEQ35
CEQ36

The screenshot shows a C programming interface. On the left, there's a code editor with the following C code:

```
#include<stdio.h>
int main(){
    int n,i,fact=1;
    printf("Enter the number");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        fact*=i;
    }
    printf("The factorial of given number %d is %d",n,fact);
    return 0;
}
```

Below the code editor are buttons for Run and Save. To the right of the code editor is a yellow header bar with a Run button. The main workspace is black, and the output window is purple. The output window contains the number 6 and the text "Enter the numberThe factorial of given number 6 is 720".

Question 10

Questions

CEQ28.

Write a program to print the Fibonacci series.

Sample Input:
Enter the n value: 6

Sample Output:
0 1 1 2 3 5

C Run Save Logout

Test Cases
Test Condition: Implement negative Fibonacci series

CEQ28
CEQ29
CEQ30
CEQ31
CEQ32
CEQ33
CEQ34
CEQ35
CEQ36

1. #include<stdio.h>
2. int main()
3. {
4. int n1=0, n2=1, n3, i, number;
5. printf("Enter the number of elements:");
6. scanf("%d", &number);
7. printf("\n%d%d", n1, n2);
8. for(i=2;i<number;i++)
9. {
10. n3=n1+n2;
11. printf("\n%d", n3);
12. n1=n2;
13. n2=n3;
14. }
15. return 0;
16. }

5

Enter the number of elements:
01123