

## DAY-2 PRACTICE TEST

C PROGRAMMING [CSA0265]  
02

TEAM:

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**Questions**  
CEQ2.

Write a program to check the entered user name is valid or not. Get both the inputs from the user.

Sample Input:  
Enter the user name: saveetha@789  
Reenter the user name: Saveetha@123

Sample Output:  
User name is Invalid

**Test Cases**

1. Student@123; Student@123
2. 123456; 12345
3. @#%\$%^&; @#%\$%^\*
4. abcdef\_12; abcdef\_12

CEQ19  
CEQ20  
CEQ21  
CEQ22  
CEQ23  
CEQ24  
CEQ25  
CEQ26  
CEQ27

C Run Save Logout

```
1. #include<stdio.h>
#include<string.h>
int main()
{
    char str1[10],str2[10];
    printf("Enter the username:\n");
    scanf("%s",&str1);
    printf("Reenter the username:\n");
    scanf("%s",&str2);
    if(strcmp(str1,str2)==0){
        printf("The username is valid ");
    }else{
        printf("The username is invalid ");
    }
    return 0;
}
```

123456  
12345

Enter the username:  
Reenter the username:  
The username is invalid

QUESTION.1



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Questions

CEQ19

Find the Mean, Median, Mode of the array of numbers?

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

Sample Output:  
Mean = 20  
Median = 19  
Mode = 16

Test Cases

1. Array of elements = {26, 28, 37, 26, 33, 31, 29}  
2. Array of elements = {1.6, 1.8, 2.7, 1.6, 2.3, 2.1, .19}  
3. Array of elements = {0, 160, 180, 270, 150, 230, 210, 190, 0}  
4. Array of elements = {200, 190, 180, 270, 160, 270, 270, 190, 200}  
5. Array of elements = {100, 100, 100, 100, 100, 100, 100, 100}

CEQ19

CEQ2

CEQ21

CEQ22

CEQ23

CEQ24

CEQ25

CEQ26

CEQ27

C

Run

Save

```

1. #include <stdio.h>
2. int main() {
3.     int arr[] = {26, 28, 37, 26, 33, 31, 29};
4.     int n = sizeof(arr) / sizeof(arr[0]);
5.     int sum = 0, mean, median, mode, max_count = 0;
6.
7.     // calculate the sum of all elements
8.     for (int i = 0; i < n; i++) {
9.         sum += arr[i];
10.    }
11.
12.    // calculate the mean
13.    mean = sum / n;
14.
15.    // sort the array
16.    for (int i = 0; i < n; i++) {
17.        for (int j = i+1; j < n; j++) {
18.            if (arr[i] > arr[j]) {
19.                int temp = arr[i];
20.                arr[i] = arr[j];
21.                arr[j] = temp;
22.            }
23.        }
24.    }
25.
26.    //calculate the median
27.    if (n % 2 == 0) {
28.        median = (arr[n/2] + arr[n/2 - 1]) / 2;
29.    } else {
30.        median = arr[n/2];
31.    }
32.
33.    // calculate the mode
34.    for (int i = 0; i < n; i++) {
35.        int count = 0;
36.        for (int j = 0; j < n; j++) {

```

Your Input Goes Here....!!!

```

<pre>C:/CCPPComp/CCPP12/bin/./lib/gcc/x86_64-w64-mingw32/10.3.0/./../../../../x86_64-w64-mingw32/bin/ld.exe:
cannot open output file exe.exe: Permission denied
collect2.exe: error: ld returned 1 exit status
</pre>

```

## QUESTION.2

SIMATS

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Questions

CEQ20

Find the factorial of n?

Sample Input:  
N = 4

Sample Output:  
4 Factorial = 24

Test Cases

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

CEQ19

CEQ2

CEQ20

CEQ21

CEQ22

CEQ23

CEQ24

CEQ25

CEQ26

CEQ27

C

Run

Save

```

1. #include <stdio.h>
2.
3. int main() {
4.     int n;
5.     printf("Enter a Positive integer: ");
6.     scanf("%d", &n);
7.
8.     int factorial = 1;
9.     for (int i = 1; i <= n; i++) {
10.        factorial *= i;
11.    }
12.
13.    printf("The factorial of %d is: %d\n", n, factorial);
14.    return 0;
15. }

```

0

Enter a Positive integer: The factorial of 0 is:  
1

## QUESTION.3

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**Questions**  
CEQ21

Write a program to print the following pattern

Sample Input:  
Enter the Character to be printed: %  
Max Number of times printed: 3  
%  
%  
% %

**Test Cases**

CEQ19  
CEQ2  
CEQ21  
CEQ22  
CEQ23  
CEQ24  
CEQ25  
CEQ26  
CEQ27

C

Run

Save

```

1. #include <stdio.h>
2. int main() {
3.     char ch;
4.     int n;
5.     printf("Enter the character to be printed: ");
6.     scanf("%c", &ch);
7.     printf("Max number of times printed: ");
8.     scanf("%d", &n);
9.     for (int i = 1; i <= n; i++) {
10.        for (int j = 1; j <= i; j++) {
11.            printf("%c", ch);
12.        }
13.        printf("\n");
14.    }
15.    return 0;
16. }
```

% 3

Enter the character to be printed: Max  
number of times printed: %  
%%  
%%%

Logout

## QUESTION.4

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**Questions**  
CEQ22

Find the year of the given date is leap year or not

Sample Input:  
Enter Date: 04/11/1947

Sample Output:  
Given year is Non Leap Year

**Test Cases**

1. 04/11/1947  
2. 11/15/1936  
3. 11/45/1996  
4. 04/09/1947  
5. 09/06/2000

C

Run

Save

```

1. #include <stdio.h>
2. int main() {
3.     int year;
4.     printf("enter a year :");
5.     scanf("%d", &year);
6.     if((year%4==0 && year%100!=0)|| (year%400==0))
7.     {
8.         printf("%d is a leap year . \n" , year);
9.     }
10.    else
11.    {
12.        printf("%d is a leap year .\n", year);
13.    }
14.    return 0;
15. }
```

04/11/1947

enter a year :4 is a leap year .

Logout

## QUESTION.5



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**Questions**  
CEQ23.

Find the number of factors for the given number

Sample Input:  
Given number: 100

Sample Output:  
Number of Factors = 9

**Test Cases**

- 343
- 1080
- 243
- 101010
- 0

CEQ19

CEQ2

CEQ20

CEQ21

CEQ22

CEQ23

CEQ24

CEQ25

CEQ26

CEQ27

Logout

C

Run

Save

```

1. #include <stdio.h>
2.
3. int main() {
4.     int num;
5.     printf("Enter a positive integer: ");
6.     scanf("%d", &num);
7.
8.     int factors = 0;
9.     for (int i = 1; i <= num; i++) {
10.        if (num % i == 0) {
11.            factors++;
12.        }
13.    }
14.    printf("The number of factors for %d is: %d\n", num, factors);
15.    return 0;
16. }

```

343

Enter a positive integer: The number of factors for 343 is: 4

## QUESTION.6

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**Questions**  
CEQ24.

Write a program to print the given number is Perfect number or not?

Sample Input:  
Given Number: 6

Sample Output:  
It's a Perfect Number

**Test Cases**

- 17
- 261
- 143
- 84.1
- 963

CEQ19

CEQ2

CEQ20

CEQ21

CEQ22

CEQ23

CEQ24

CEQ25

CEQ26

CEQ27

Logout

C

Run

Save

```

1. #include <stdio.h>
2. int main() {
3.     int num, i = 1, sum = 0;
4.     printf("Enter a number: ");
5.     scanf("%d", &num);
6.
7.     for(int i = 1; i < num; i++) {
8.         if (num % i == 0) {
9.             sum += i;
10.        }
11.    }
12.
13.    if (sum == num) {
14.        printf("%d is a perfect number.\n", num);
15.    } else{
16.        printf("%d is not a perfect number.\n", num);
17.    }
18.
19.    return 0;
20. }

```

143

Enter a number: 143 is not a perfect number.

## QUESTION.7



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**Questions**  
CEQ25.
 

Write a program to print the number of vowels in the given statement?

Sample Input:  
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Sample Output:  
Number of vowels = 12

**Test Cases**

- India is my country
- All are my brothers and sisters
- My try sky
- My try sky
- EDUCATION

CEQ19  
CEQ20  
CEQ21  
CEQ22  
CEQ23  
CEQ24  
CEQ25  
CEQ26  
CEQ27

C
Run
Save
Logout

```

1. #include <stdio.h>
2. int main() {
3.     char statement[1000];
4.     printf("Enter a statement: ");
5.     gets(statement);
6.
7.     int vowelsCount = 0;
8.     for (int i = 0; statement[i] != '\0'; i++) {
9.
10.        if ( statement[i] == 'a' || statement[i] == 'A' ||
11.            statement[i] == 'e' || statement[i] == 'E' ||
12.            statement[i] == 'i' || statement[i] == 'I' ||
13.            statement[i] == 'o' || statement[i] == 'O' ||
14.            statement[i] == 'u' || statement[i] == 'U' ) {
15.            vowelsCount++;
16.        }
17.    }
18.    printf("Number of vowels in the statement: %d\n", vowelsCount);
19.    return 0;
20. }
        
```

India is my country

Enter a statement: Number of vowels in the statement: 6

## QUESTION.8

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**Questions**  
CEQ26.
 

Write a program to print hollow square symbol pattern?  
Get the symbol from user.

Sample Input: #

Output:  
#####  
# #  
# #  
#####

**Test Cases**

```

%
&
*
(
@
        
```

CEQ19  
CEQ20  
CEQ21  
CEQ22  
CEQ23  
CEQ24  
CEQ25  
CEQ26  
CEQ27

C
Run
Save
Logout

```

1. #include <stdio.h>
2.
3. int main() {
4.     int side;
5.     printf("Enter the side length of the square: ");
6.     scanf("%d", &side);
7.
8.     for(int i = 1; i <= side; i++) {
9.         for (int j = 1; j <= side; j++) {
10.
11.            if (i == 1 || i == side || j == 1 || j == side) {
12.                printf("** ");
13.            } else {
14.                printf(" ");
15.            }
16.        }
17.        printf("\n");
18.    }
19.    return 0;
20. }
        
```

5

Enter the side length of the square: \*\*\*\*\*  
\* \*  
\* \*  
\* \*  
\* \*  
\*\*\*\*\*



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## QUESTION.9

Write a program to print consonants and vowels separately in the given word.

Sample Input:  
Given word: Engineering

Sample Output:  
Consonants: n g n r n g  
Vowels: e i e e i

1. TRY  
2. F5-D140  
3. C06  
4. K0004 F006  
5. EDUCATION

CF020  
CF021  
CF022  
CF023  
CF024  
CF025  
CF026  
CF027

C
Run
Save

```

1. #include <stdio.h>
2. #include <string.h>
3. int main() {
4.     char word[100];
5.     printf("Enter a word: ");
6.     scanf("%s", word);
7.
8.     printf("Consonants: ");
9.     for(int i = 0; i < strlen(word); i++) {
10.        char ch = word[i];
11.        if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z')) {
12.            if (ch != 'a' && ch != 'e' && ch != 'i' && ch != 'o' && ch != 'u' &&
13.                ch != 'A' && ch != 'E' && ch != 'I' && ch != 'O' && ch != 'U') {
14.                printf("%c ", ch);
15.            }
16.        }
17.    }
18.    printf("Vowels: ");
19.    for(int i = 0; i < strlen(word); i++) {
20.        char ch = word[i];
21.        if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z')) {
22.            if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' &&
23.                ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U') {
24.                printf("%c ", ch);
25.            }
26.        }
27.    }
28.    return 0;
29. }

```

TRY

Enter a word: Consonants: T R Y Vowels:

## QUESTION.10



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