

### Questions

CEQ25.

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

Sample Input:  
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Sample Output:  
Number o vowels = 12

### Test Cases

1. India is my country
2. All are my brothers and sisters
3. why dry sky
4. Shy Try Cry
5. EDUCATION

C Run Save

```
1. #include <stdio.h>
2. int main()
3. {
4.     int c=0,count=0;
5.     char s[1000];
6.     printf("enter a string\n");
7.     gets(s);
8.     while (s[c] !='\0') {
9.         if (s[c]=='a' || s[c]=='A' || s[c]=='e' || s[c]=='E' || s[c]=='i' || s[c]=='I' || s[c]=='o' || s[c]=='O' ||
10.            count++;
11.            c++;
12.        }
13.        printf("number of vowels in the string:%d",count);
14.        return 0;
15.    }
```

Saveetha School of Engineering

enter a string  
number of vowels in the string:12

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

Sample Input: #

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

%  
&  
\*  
(  
@

```
1. #include <stdio.h>
2. void print_rectangle(int n, int m)
3. {
4.     int i , j;
5.     for (i=1; i<=n; i++)
6.     {
7.         for (j=1; j<=m; j++)
8.         {
9.             if (i==1 || i==n || j==1 || j==m)
10.                printf("# ");
11.             else
12.                printf("  ");
13.         }
14.         printf("\n");
15.     }
16. }
17. int main()
18. {
19.     int rows=4,columns=5;
20.     print_rectangle(rows,columns);
21.     return 0;
22. }
```

Your Input Goes Here...!!!!

#####  
# #  
# #  
# #  
#####

### 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. 31/45/1996
4. 64/09/1947
5. 00/00/2000

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%400==0){
7.         printf("%d is a leap year,",year);
8.     }
9.     else if (year%100==0) {
10.        printf("%d is a leap year,",year);
11.    }
12.    else {
13.        printf("%d is not a leap year,",year);
14.    }
15.    return 0;
16. }
```

1947

enter a year1947 is not a leap year,

### 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

Logout

C

Run

Save

```
1. #include <stdio.h>
2. int main() {
3.     int n, i;
4.     unsigned long long factorial =1;
5.     printf("enter a positive integer:");
6.     scanf("%d",&n);
7.     for (i=1; i<=n; ++i) {
8.         factorial *=i;
9.     }
10.    printf("factorial of %d=%llu",n,factorial);
11.    return 0;
12. }
```

4

enter a positive integer:factorial of 4=

24

Questions  
CEQ23.

Find the number of factors for the given number

Sample Input:  
Given number: 100

Sample Output:  
Number of factors = 9

Test Cases

1. 343
2. 1000
3. -243
4. 101010
5. 0

- CEQ2
- CEQ20
- CEQ21
- CEQ22
- CEQ23
- CEQ24
- CEQ25
- CEQ26
- CEQ27

C

Run

Save

Logout

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

100

enter the positive integer:the number of factors of 100 is 9

Questions  
CEQ21.

Write a program to print the following pattern.

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

Test Cases

C

Run

Save

```
1. #include <stdio.h>
2. int main() {
3.     int rows=3;
4.     for (int i=0; i<rows; i++) {
5.         for (int j=0; j<=i; j++) {
6.             printf("% " );
7.         }
8.         printf("\n");
9.     }
10.    return 0;
11. }
12.
```

Your Input Goes Here...

\*  
\* \*

```
1. #include<stdio.h>
2. #include<string.h>
3. #include<ctype.h>
4. int main() {
5.     char word[100];
6.     int len, i;
7.     printf("enter a word:");
8.     scanf("%s",word);
9.     len=strlen(word);
10.    printf("consonants: ");
11.
12.    for(i=0;i<len;i++) {
13.        if(isalpha(word[i]) && !strchr("AEIOUaeiou",word[i])) {
14.            printf("%c",word[i]);
15.        }
16.    }
17.    printf("\nvowels: ");
18.    for(i=0;i<len;i++) {
19.        if (isalpha(word[i]) && strchr("AEIOUaeiou",word[i])) {
20.            printf("%c",word[i]);
21.        }
22.    }
23.    return 0;
24. }
25.
```

knowledge

enter a word:consonants: knwldg  
vowels: oee

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

- 1. 17
- 2. 26!
- 3. 143
- 4. 84.1
- 5. -963

C

Run

Save

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

6

enter any number;  
it is a perfect number.



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

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

CEQ2

CEQ20

CEQ21

CEQ22

CEQ23

CEQ24

CEQ25

CEQ26

CEQ27

C

Run

Save

Logout

```
1. #include<stdio.h>
2. #include<stdlib.h>
3. int main(){
4.     int n,i,j,temp,sum=0,mode=0,count=0;
5.
6.     float mean, median;
7.     printf("Enter the size of array:\n");
8.     scanf("%d",&n);
9.     int *arr=(int*) malloc(n*sizeof(int));
10.    printf("Enter the array elements:\n");
11.    for(i=0;i<n;i++)
12.    {
13.        scanf("%d",&arr[i]);
14.        sum+=arr[i];
15.    }
16.    // mean
17.    mean=(float)sum/n;
```

16

18

Enter the size of array:  
Enter the array elements:  
Mean =64857720.00

```
18. for(i=0;i<n-1;i++) {
19.     for(j=i+1;j<n;j++) {
20.         if(arr[i]>arr[j]) {
21.             temp=arr[i];
22.             arr[i]=arr[j];
23.             arr[j]=temp;
24.         }
25.     }
26. }
27. if(n%2==0) {
28.     median=(arr[n/2-1]+arr[n/2])/2;
29. }
30. else {
31.     median=arr[n/2];
32. }
33. // mode
34. for(i=0;i<n;i++)
35. {
36.     count =0;
37.     for(j=1;j<n;j++)
38.     {
39.         if(arr[i]==arr[j])
40.         {
41.             count++;
42.         }
43.     }
44.     if(count>mode)
45.     {
46.         mode =count;
47.     }
48. }
```

Questions  
CEQ2.

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

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>
2. #include<string.h>
3. int main()
4. {
5.     char str1[10],str2[10];
6.     printf("Enter the username:\n");
7.     scanf("%s",&str1);
8.     printf("Reenter the username:\n");
9.     scanf("%s",&str2);
10.    if(strcmp(str1,str2)==0){
11.        printf("The username is valid ");
12.    }else{
13.        printf("The username is not valid");
14.    }
15.    return 0;
16. }
```

Saveetha123  
Saveetha123

Enter the username:  
Reenter the username:  
The username is not valid