

DAY 2 C PROGRAMMING PRACTICE

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1.

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

```
1. #include<stdio.h>
2. int main()
3. {
4.     int year;
5.     printf("enter a year to check if it is leap year\\n");
6.     scanf("%d",&year);
7.     if(year%400==0)
8.         printf("%d is a leap year.\\n",year);
9.     else if(year%100==0)
10.        printf("%d is not a leap year.\\n",year);
11.     else if(year%4==0)
12.         printf("%d is a leap year.\\n",year);
13.     else
14.         printf("%d is a not leap year.\\n",year);
15.     return 0;
16. }
```

1947

enter a year to check if it is leap year
1947 is a not leap year.

2.

Questions

CEQ20.

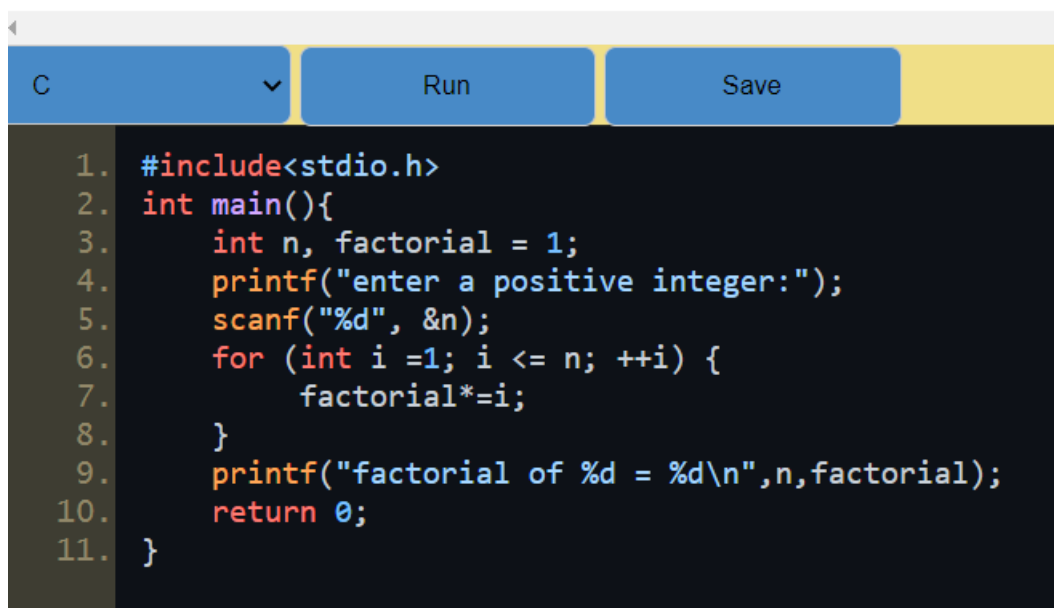
Find the factorial of n?

Sample Input:

N = 4

Sample Output:

4 Factorial = 24

A screenshot of a C programming IDE. At the top, there are three buttons: 'C' with a dropdown arrow, 'Run', and 'Save'. Below the buttons is a dark-themed code editor with a light blue line-numbered margin on the left. The code is as follows:

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

4

enter a positive integer:factorial of 525 = 0

3.

Questions

CEQ23.

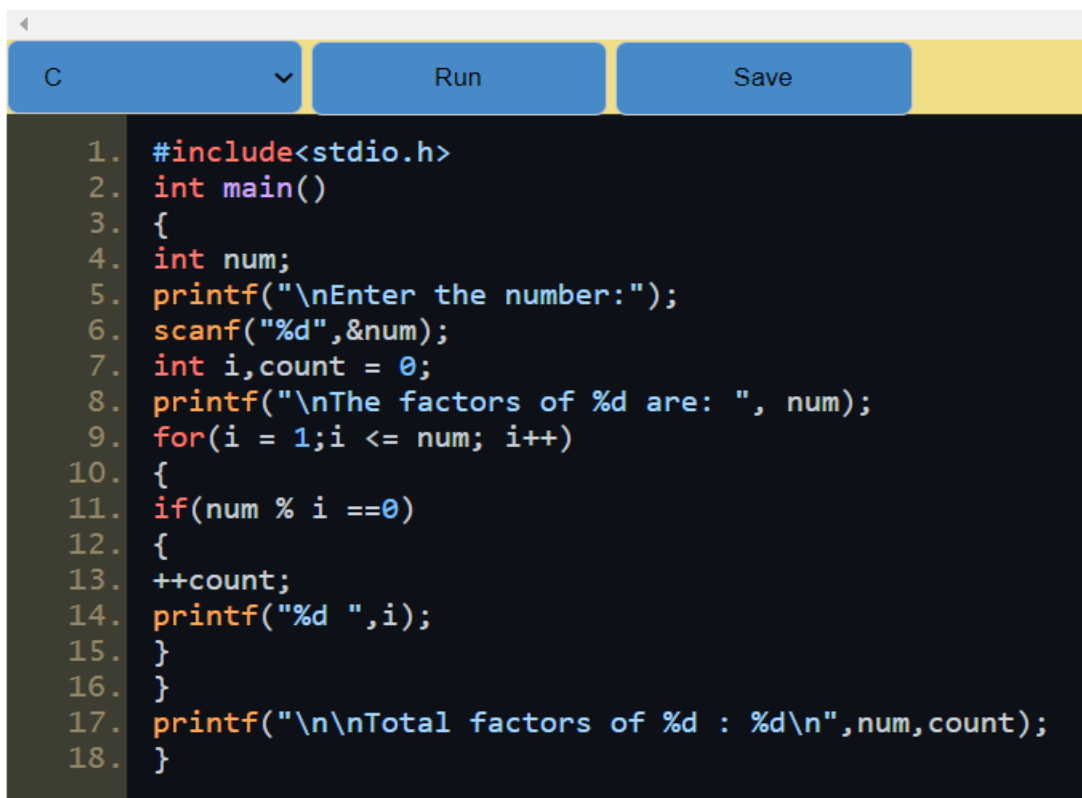
Find the number of factors for the given number

Sample Input:

Given number: 100

Sample Output:

Number of factors = 9



```
1. #include<stdio.h>
2. int main()
3. {
4.     int num;
5.     printf("\nEnter the number:");
6.     scanf("%d",&num);
7.     int i,count = 0;
8.     printf("\nThe factors of %d are: ", num);
9.     for(i = 1;i <= num; i++)
10.    {
11.        if(num % i ==0)
12.        {
13.            ++count;
14.            printf("%d ",i);
15.        }
16.    }
17.    printf("\n\nTotal factors of %d : %d\n",num,count);
18. }
```

100

Enter the number:
The factors of 100 are: 1 2 4 5 10 20 25 50
100

Total factors of 100 : 9

4.

Questions

CEQ2.

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

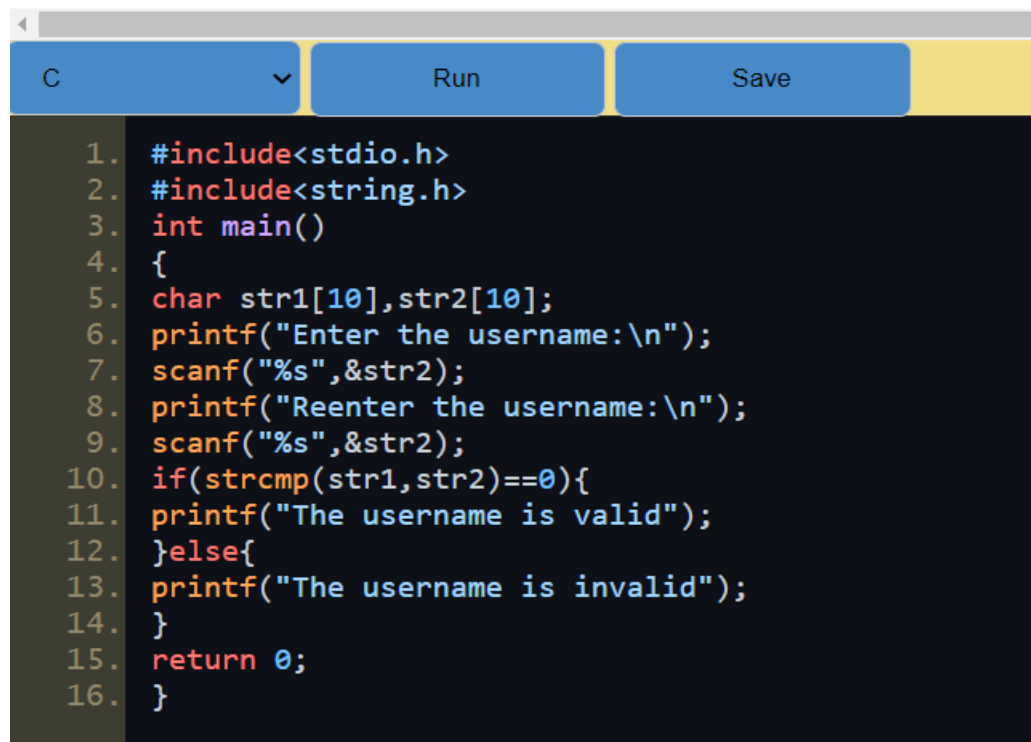
Sample Input:

Enter the user name: Saveetha@789

Reenter the user name: Saveetha@123

Sample Output:

User name is Invalid



```
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",&str2);
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 invalid");
14.    }
15.    return 0;
16. }
```

Saveetha@789

Saveetha@123

Enter the username:
Reenter the username:
The username is valid

5.

Questions

CEQ25.

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

Sample Input:

Saveetha School of Engineering

Sample Output:

Number o vowels = 12

```
1. #include<stdio.h>
2. int main()
3. {
4.     int c = 0, count = 0;
5.     char s[1000];
6.     printf("Input 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' ||
10.             s[c] == 'o' || s[c] == 'O' || s[c] == 'u' || s[c] == 'U')
11.             count++;
12.             c++;
13.     }
14.     printf("numbers of vowels in the string: %d",count);
15.     return 0;
16. }
```

Saveetha School of Engineering

Input a string
numbers of vowels in the string: 12

6.

Questions

CEQ27.

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

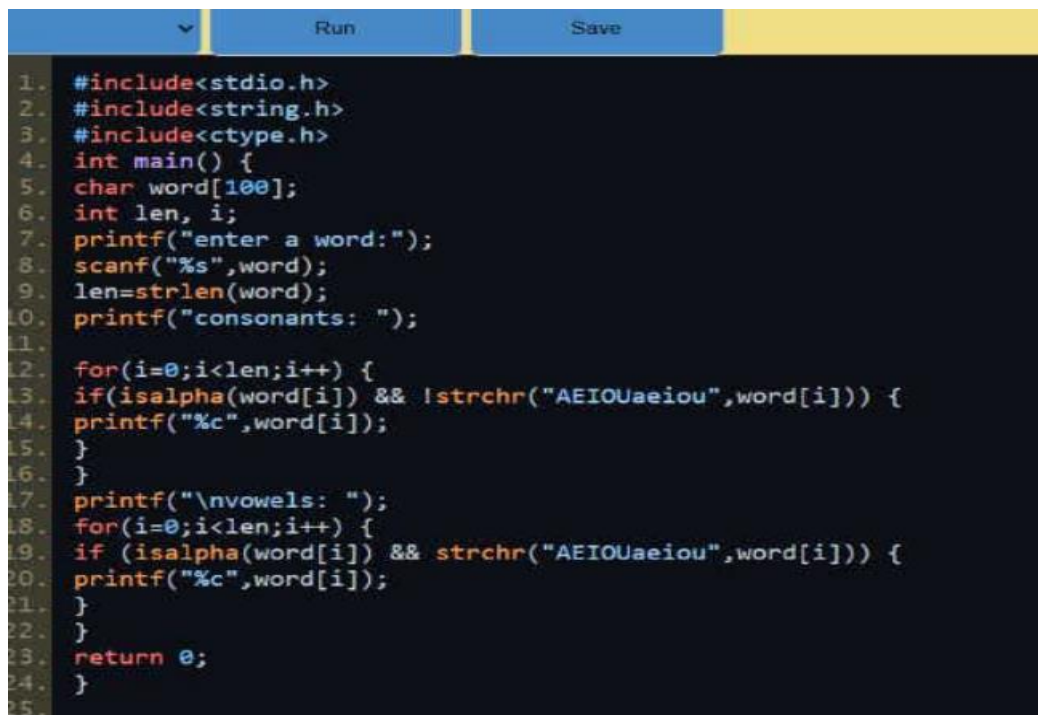
Sample Input:

Given Word: Engineering

Sample Output:

Consonants: n g n r n g

Vowels: e i e ei



```
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. }
```

knowledge



```
enter a word:knowledge
consonants: knwldg
vowels: oee
```

7.

Questions

CEQ26.

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

Sample Input: #

Output:

```
# # # # #
#       #
#       #
# # # # #
```

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

4

```
enter side of square
# # # #
#       #
#       #
# # # #
```

8.

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

```
C  Run  Save
1.  #include<stdio.h>
2.  int main()
3.  {
4.  int num,sum=0,i;
5.  printf("enter a number:");
6.  scanf("%d",&num);
7.  for(int i=1;i<num;i++)
8.  {
9.  if(num%i==0)
10. {
11. sum+=i;
12. }
13. }
14. if(sum==num)
15. {
16. printf("%d" "is a perfect number.",num);
17. }
18. else{
19. printf("%d" "is not a perfect number.",num);
20. }
21. return 0;
22. }
```

87

enter a number:87is not a perfect number.

9.

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:

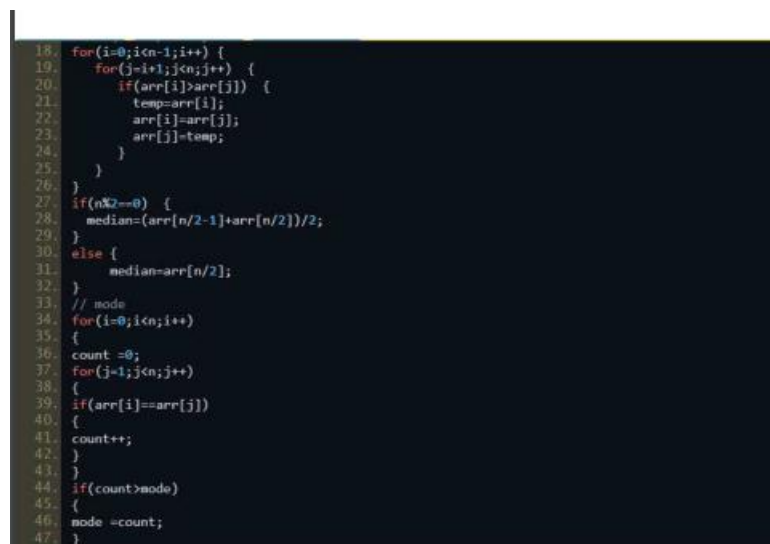
Mean = 20

Median = 19

Mode = 16



```
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;
```



```
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.    }
```

16
18

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

10.

Questions

CEQ21.

Write a program to print the following pattern

Sample Input:

Enter the Character to be printed: %

Max Number of time printed: 3

%

% %

% % %

```
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.
```

