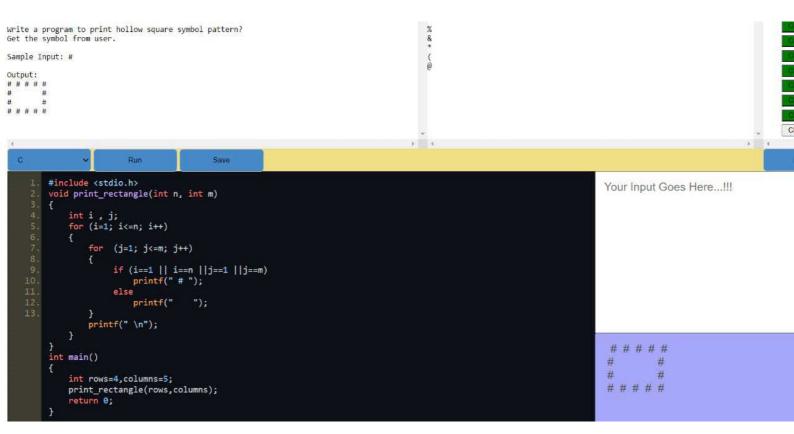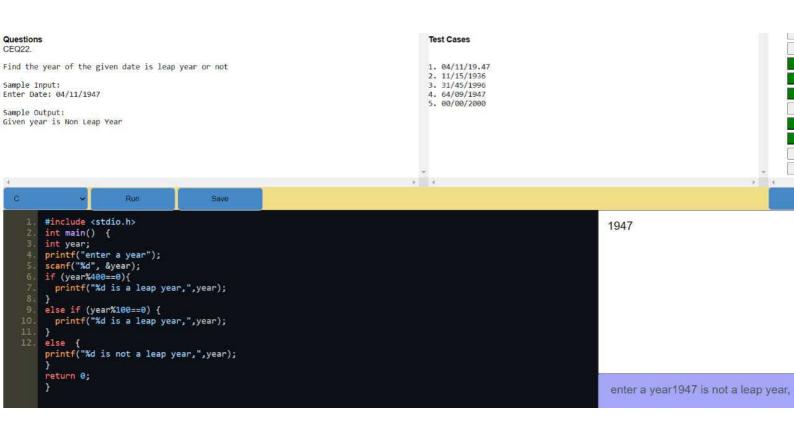# CSA0245   C-Programming   DAY-2

Pagidala Madeena
192211011

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

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

```c
#include <stdio.h>
int main()
{
    int c=0,count=0;
    char s[1000];
    printf("enter a string\n");
    gets(s);
    while (s[c] !='\0')  {
      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'
        count++;
      c++;
    }
    printf("number of vowels in the string:%d",count);
    return 0;
}
```

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:
```
# # # # #
#       #
#       #
# # # # #
```

%
&
*
(
@

| C | ∨ | Run | Save |

```c
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. 04/11/19.47
2. 11/15/1936
3. 31/45/1996
4. 64/09/1947
5. 00/00/2000

C   Run   Save

```c
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  {
    printf("%d is not a leap year,",year);
    }
    return 0;
    }
```

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

| C | Run | Save | | Logout |

```c
#include <stdio.h>
int main() {
    int n, i;
    unsigned long long factorial =1;
    printf("enter a positive integer:");
    scanf("%d",&n);
    for (i=1; i<=n; ++i)  {
        factorial *=i;
    }
    printf("factorial of %d=%11u",n,factorial);
    return 0;
}
```

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. 1080
3. -243
4. 101010
5. 0

C   Run   Save   Logout

```c
#include <stdio.h>
int main()  {
int n,i, factors=0;
printf("enter the positive integer:");
scanf("%d",&n);
for(i=1; i<=n;i++)  {
   if(n%i==0)  {
      factors++;
   }
}
printf("the number of factors of %d is %d\n",n,factors);
return 0;
}
```

100

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

CEQ21.

Write a program to print the following pattern

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

```c
#include <stdio.h>
int main()  {
int rows=3;
for (int i=0; i<rows; i++)  {
    for (int j=0; j<=i; j++)  {
        printf("* ");
    }
    printf("\n");
}
return 0;
}
```

Your Input Goes Here...

*
* *

```c
#include<stdio.h>
#include<string.h>
#include<ctype.h>
int main() {
char word[100];
int len, i;
printf("enter a word:");
scanf("%s",word);
len=strlen(word);
printf("consonants: ");

for(i=0;i<len;i++) {
if(isalpha(word[i]) && !strchr("AEIOUaeiou",word[i])) {
printf("%c",word[i]);
}
}
printf("\nvowels: ");
for(i=0;i<len;i++) {
if (isalpha(word[i]) && strchr("AEIOUaeiou",word[i])) {
printf("%c",word[i]);
}
}
return 0;
}
```

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

```c
#include <stdio.h>
int main()
{
  int num, sum=0,i;
  printf("enter any number:");
  scanf("%d",&num);
  for (i=1; i<num; i++)
  {
    if (num%i==0)
        sum=sum+i;
  }
  if(num==sum)
      printf("\n it is a perfect number.");
  else
      printf("\n it is not a perfect number.");
  return 0;
}
```

6

enter any number:
it is a perfect number.

EQ19.

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

ample Input;:
rray of elements = {16, 18, 27, 16, 23, 21, 19}

ample Output:
ean = 20
edian = 19
ode = 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.  }
```

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
CEQ2
CEQ20
CEQ21
CEQ22
CEQ23
CEQ24
CEQ25
CEQ26
CEQ27

| C | Run | Save | | Logout |

```c
#include<stdio.h>
#include<string.h>
int main()
{
char  str1[10],str2[10];
printf("Enter the username:\n");
scanf("%s",&str1);
printf("Renter the username:\n");
scanf("%s",&str2);
if(strcmp(str1,str2)==0){
printf("The username is valid ");
}else{
printf("The username is not valid");
}
return 0;
}
```

Saveetha123
Saveetha123

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