

C-Lab-Day-10

Program-1 :- [ok]

[Title: Time of Day Classifier]

Write a C Program to Identify the Time of Day :-

Develop a C program that accepts an hour (in 24-hour format) as input and classifies the time of day as "Morning," "Afternoon," "Evening," or "Night." Implement this using a series of if statements. The program should also validate the input and display an error message if the entered hour is outside the valid range (0-23).

Sample Input :-

Enter the hour (24-hour format): 13

Sample Output :-

It's Afternoon.

Sol:

// Online C compiler to run C program online

```
#include <stdio.h>
```

```
int main() {  
    int hr=24;  
    printf("Enter the hour(24-hour format):");  
    scanf("%d",&hr);  
    if(hr>=0 && hr<=10)  
    {  
        printf("It's Morning");  
    }  
    else if(hr>=11 && hr<=15)  
    {  
        printf("It's Afternoon");  
    }  
    else if(hr>=16 && hr<=20)  
    {  
        printf("It's evening");  
    }  
}
```

```
else if(hr>=21 && hr<=23)
{
    printf("It's night");
}
else
{
    printf("Error:Invalid input");
}

return 0;
}
```

Program-2 :- [ok]

Title: Finding the Maximum of Three Numbers

Write a C program to find the maximum among three numbers.

Sample Input :-

Enter First Number -> 100

Enter Second Number -> 200

Enter Third Number -> 300

Sample Output :-

Biggest Number is 300

Sol:

// Online C compiler to run C program online

```
#include <stdio.h>
```

```
int main() {  
    int a,b,c;  
    printf("Enter First Number:");  
    scanf("%d",&a);  
    printf("Enter Second Number:");  
    scanf("%d",&b);  
    printf("Enter Third Number:");  
    scanf("%d",&c);  
    if(a>b && a>c)
```

```

{
    printf("Biggest number is:%d",a);
}
else if (b>a && b>c)
{
    printf("Biggest number is:%d",b);
}
else
{
    printf("Biggest number is:%d",c);
}

return 0;
}

```

Program-3 :- [ok]

Title: Check if a Number is Positive, Negative, or Zero

Write a C program to check whether a number is negative, positive, or zero.

Sample input :-

Enter a number -> 10

Sample output :-

10 is Positive number

Sample input :-

Enter a number -> 0

Sample output :-

The number you have entered is - zero

Sample input :-

Enter a number -> -2

Sample output :-

negative number

Sol:

—

// Online C compiler to run C program online

```
#include <stdio.h>
```

```
int main() {
```

```
    int a;
```

```
    printf("Enter a number:");
```

```
    scanf("%d",&a);
```

```
    if(a>0)
```

```
    {
```

```
        printf("%d is positive number",a);
```

```
    }
```

```
    else if(a<0)
```

```
    {
```

```
        printf("%d is negative number",a);
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("The number you have entered is -zero");
```

```
    }
```

```
    return 0;  
}
```

Program-4 :- [ok]

[Title: Character Type Checker in C]

Write a C program to input any character and check whether it is an alphabet, a digit, or a special character.

Sample Input :-

Enter a Character -> 'A';

Sample Output :-

Entered Character is Alphabet

Sample Input :-

Enter a Character -> '9';

Sample Output :-

Entered Character is - Digit

Sample Input :-

Enter a Character -> '@';

Sample Output :-

@ is Special character

Sol:

// Online C compiler to run C program online

```
#include <stdio.h>
```

```
int main() {
```

```
    char ch;
```

```
    printf("Enter a Character:");
```

```
    scanf("%c",&ch);
```

```

if(ch>=65 && ch<=90 || ch>=97 && ch<=122)
{
    printf("Entered Character is Alphabet");
}
else if(ch>=48 && ch<=57)
{
    printf("Entered Character is-Digit");

}
else if(ch>=33 && ch<=64 || ch>=123 && ch<=127 )
{
    printf("%c is a Special character",ch);
}

return 0;
}

```

Program-5 :- [ok]

[Title: Triangle Validity Check Using Side Lengths]

Write a C program to input the lengths of all sides of a triangle and check whether the triangle is valid.

Validity Check :-

-> The sum of side1 and side2 must be greater than side3.

-> The sum of side1 and side3 must be greater than side2.

-> The sum of side2 and side3 must be greater than side1.

If all three conditions are true, the program should print "The triangle is valid." If any of the conditions are false, the program should print "The triangle is not valid."

Sample Input :-

Enter the lengths of the three sides of the triangle:

-> Side 1: 3

-> Side 2: 4

-> Side 3: 5

Sample Output :-

The triangle is valid.

Sample Input :-

Enter the lengths of the three sides of the triangle:

-> Side 1: 1

-> Side 2: 2

-> Side 3: 3

Sample Output :-

The triangle is not valid.

Sol:

// Online C compiler to run C program online

#include <stdio.h>

int main() {

 int s1,s2,s3;

```
printf("Enter side1:");
scanf("%d",&s1);
printf("Enter side2:");
scanf("%d",&s2);
printf("Enter side3:");
scanf("%d",&s3);
if((s1+s2>s3) && (s1+s3>s2) && (s2+s3>s1))
{
    printf("The triangle is valid");
}
else
{
    printf("This in not valid");
}

return 0;
}
```