

ASSIGNMENT - 3

1. Write a program to check whether a given number is positive or negative.

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

```
int main ()  
{
```

```
    int x ;
```

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

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

```
    if (x > 0)
```

```
    {
```

```
        printf (" Positive ");
```

```
}
```

```
else
```

```
    {
```

```
        printf (" Non-positive ");
```

```
}
```

```
    return 0 ;
```

```
}
```

2. Write a program to check whether a given number is an even number or an odd number.

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

```
int main ()
```

```
{
```

```
    int x ;
```

```
    printf (" Enter a Number ");
```

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

```
    if (x % 2 == 0)
```

```
{
```

```
        printf (" Number is even ");
```

```
}
```

```
else
```

```
{
```

```
        printf (" Number is Odd ");
```

```
}
```

```
    return 0 ;
```

```
?
```

3. Write a program to ~~print~~ check whether a given number is divisible by 5 or not.

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

```
int main ()
```

```
{
```

```
    int x;
```

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

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

```
    if (x % 5 == 0)
```

```
{
```

```
        printf ("%d divisible by 5", x);
```

```
}
```

```
} // divisiblity
```

```
else
```

```
{
```

```
    printf ("%d Not divisible by 5", x);
```

```
}
```

```
return 0;
```

4. Write a program to check whether a given number is an even or odd number without using % operator.

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

```
int main ()
```

```
{
```

```
    int x;
```

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

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

```
    if (x & 1)
```

```
{
```

```
        printf ("Number is odd");
```

```
}
```

```
else
```

```
{
```

```
    printf ("Number is even");
```

```
}
```

```
return 0;
```

5. Write a program to check whether a given number is a three digit number or not.

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

```
int main()
```

```
{
```

```
    int x; Count = 0;
```

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

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

```
    while (x)
```

```
{
```

```
        int rem = x % 10;
```

```
        int Count++;
```

```
        x = x / 10;
```

```
}
```

```
    if (Count == 3)
```

```
{
```

```
    printf("y.d is 3 digit number:");
```

```
}
```

```
else
```

```
{
```

```
    printf("y.d is not digit number");
```

```
}
```

```
return 0;
```

```
}
```

6. Write a program to print greater between two numbers print one number or both are the same

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

```
int main()
```

```
{
```

```
    int a, b;
```

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

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

```
    if (a > b) || a == b
```

```
{
```

```
        printf("Greater number is y.d", a);
```

```
}
```

```

    else {
        cout << "Greater Number is " << a << endl;
    }
    return 0;
}

```

7. Write a program to Check whether Roots of a given quadratic equation are real & distinct & equal or imaginary.

```

#include <stdio.h>
int main () {
    int a, b, c;
    printf ("Enter Value of a, b and c");
    scanf ("%d %d %d", &a, &b, &c);
    int D = b * b - 4 * a * c;
    if (D == 0)
    {

```

printf ("Roots of equation is real & equal");
 }
 else

```

        if (D > 0)
    {

```

printf ("Roots are Real and distinct");
 }
 else

```

        printf ("Roots are Imaginary Roots");
    }
    return 0;
}

```

return 0;

((b * b - 4 * a * c) < 0) {cout << "No Roots"}

8. Write a program to check whether a given year is a leap year or not.

```
#include <stdio.h>
int main()
{
```

```
    int year;
```

```
    printf("Enter Year: ");
```

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

```
    if (year % 100 == 0)
```

```
    {
```

```
        if (year % 4 == 0)
```

```
            printf("Leap Year");
```

```
        else
```

```
            printf("Not a Leap Year");
```

```
    }
```

```
}
```

```
else
```

```
    if (year % 4 == 0)
```

```
        printf("Leap Year");
```

```
    else
```

```
        printf("Not a Leap Year");
```

```
}
```

```
else
```

```
    printf("Not a Leap Year");
```

```
}
```

```
else
```

```
    printf("Not a Leap Year");
```

9. Write a program to find the greatest among three given numbers print once, if the greatest number appears two or three times.

```
#include <Stdio.h>
int main()
{
    int a,b,c;
    printf("Enter three numbers");
    scanf("%d %d %d", &a,&b,&c);
    if (a>b & a>c)
    {
        printf("%d is greater", a);
    }
    else
    {
        if (b>c)
            printf("%d is greater", b);
        else
            printf("%d is greater", c);
    }
    return 0;
}
```

10. Write a program which takes the Cost price and selling price of product from the user. Now calculate and print profit or loss percentage.

```
#include <Stdio.h>
int main()
{
    int CP, SP;
    float prof, loss;
    printf("Enter cost & selling price");
    scanf("%d %d", &CP, &SP);
```

if (SP > CP)

$$\text{Prof} = SP - CP ;$$

$$\text{Prof} = (\text{Prof} * 100) / CP ;$$

printf ("Profit is %f %", Prof);

}

else

{

$$\text{Loss} = (CP - SP)$$

$$\text{Loss} = (\text{Loss} * 100) / CP ;$$

printf ("Loss percentage is %f %", loss %);

}

return 0;

11. Write a program to take mark of 5 subject from the user. Assume marks are given out of 100 and passing marks is 33. Now display whether the candidate passed the examination or failed.

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

```
int main ()
```

{

```
int Phy, Che, math, His, Eng ;
```

```
printf ("Enter Phy:Che:math:His:Eng")
```

```
scanf ("%d %d %d %d %d", &Phy, &Che, &math  
&His, &Eng) ;
```

12. Write a program to check whether a given alphabet is in uppercase or lowercase.

```
#include <stdio.h>
int main ()
{
    int main
    char ch
    printf ("Enter a alphabet");
    scanf ("%c", &ch);
    if (ch >= 'a' && ch <= 'z')
    {
        printf ("Lowercase Alphabet");
    }
    else
    if (ch >= 'A' && ch <= 'Z')
        printf ("Uppercase Alphabet");
    else
        printf ("invalid");
    return 0;
}
```

13. Write a program to check whether a given number is divisible by 3 and divisible by 2.

```
#include <stdio.h>
int main ()
{
    int x;
    printf ("Enter a Number");
    scanf ("%d", &x);
    if (x % 3 == 0 && x % 2 == 0)
        printf ("Divisible by 2 & 3");
    else
        printf ("Not Divisible by 2 & 3");
    return 0;
}
```

14. Write a program to check whether a given number is divisible by 7 or divisible by 3.

```
#include <stdio.h>
int main ()
{
    int xc ;
    printf ("Enter a Number! ");
    scanf ("%d", &xc) ;
    if ((xc % 7 == 0) || (xc % 3 == 0))
        printf ("%d is divisible");
    else
        printf ("%d Not divisible");
    return 0 ;
}
```

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

```
#include <stdio.h>
int main ()
{
    int xc ;
    printf ("Enter a Number! ");
    scanf ("%d", &xc) ;
    if (xc > 0)
        printf ("Number is Positive");
    else
        if (xc < 0)
            printf ("Number is Negative");
        else
            printf ("Number is zero");
    return 0 ;
}
```

16. Write a program to check whether, Given Character is on alphabet (uppercase), an alphabet (lowercase), a digit or a special character.

```
#include <stdio.h>
int main ()
{
    Char ch;
    printf ("Enter a Character");
    Scanf ("%c", &ch);
    if (x >= 'a' & & x <= 'z')
        printf ("Alphabet Lower Case");
    if (x >= 'A' & & x <= 'Z')
        printf ("Alphabet Uppercase");
    if (x >= '0' & & x <= '9')
        printf ("A digit");
    else
        printf ("A special character");
    return 0;
}
```

17. Write a Program which takes the side of a triangle as input, display whether the triangle is valid or not.

```
#include <stdio.h>
int main ()
{
    int a,b,c;
    printf ("Enter Triangle Sides");
    Scanf ("%d %d %d", &a, &b, &c);
    if (a+b>c || a+c>b || b+c>a)
        printf ("Triangle is Valid");
    else
        printf ("Triangle is not valid");
    return 0;
}
```

18.

Write a program which takes the month number as an input and display number of days in that month.

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

```
int main ()
```

```
{
```

```
    int x ;
```

```
    printf ("Enter month Number : ");
```

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

```
    if (x == 1)
```

```
        printf ("31 Days");
```

```
    else
```

```
        if (x == 2)
```

```
            printf ("28 or 29 Days");
```

```
        else
```

```
            if (x == 3)
```

```
                printf ("31 Days");
```

```
        else
```

```
            if (x == 4)
```

```
                printf ("30 Days");
```

```
            else
```

```
                printf ("31 Days");
```

```
            else
```

```
                if (x == 6)
```

```
                    printf ("30 Days");
```

```
            else
```

```
                if (x == 7)
```

```
                    printf ("31 Days");
```

```
            else
```

```
                if (n == 8)
```

```
                    printf ("31 Days");
```

```
            else
```

```
                if (n == 9)
```

```
                    printf ("30 Days");
```

else

 if ($x \geq 10$)

 printf ("31 days");

else

 if ($x \geq 11$)

 printf ("30 days");

else

 if ($x \geq 12$)

 printf ("31 Days");

else

 printf ("invalid number");

return 0;

}