Assignment - 3

(1) Write a program to check whether a given number is positive or non-positive.

Ans.

```
int main()
{ int a;
    printf("enter a number");
    scanf("%d", &a);
if (x>=0)
    printf("Positive number");
else
    printf("Non positive"); }
```

(2) Write a program to check whether a given number is divisible by 5 or not.

Ans.

```
int main()
{ int a;
    printf("enter a number");
    scanf("%d", &a);
if (x%5==0)
    printf("Divisible by Five");
else
    printf("Not Divisible by Five");
```

(3) Write a program to check whether a given is an even number or an odd number.

Ans.

```
int main()
{ int a
```

```
printf ("enter a number");
Scanf ("%d", &a);
if (x%2 == 0)
        printf ("even");
else
        printf ("odd");
}
```

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

Ans

```
int main()
{ int a;
        printf ("enter a number");
        Scanf ("%d", &a);
if (a & 1 == 1)
        printf ("odd");
else if (a & 1 == 0)
        printf ("even");
}
```

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

Ans

```
int main()
{ int a;
        printf("enter a number");
        Scanf("%d", &a);
if (a > 99 && a < 1000)
        printf ("Three digit no.");
else
        printf ("Not");
}
```

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

Ans

```
int main()
{ int x, y;
        printf("enter first number");
        Scanf("%d", &x);
        printf("enter second number");
        Scanf("%d", &y);
if (x>=y)
        printf("%d", x);
else
        printf("%d", y);
}
```

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

Ans.

```
int main()
{ char ch;
        printf("enter a character");
        Scanf("%c", &ch);

if (ch>='A' && ch<='Z')
        printf("uppercase letter", ch);

else if (ch>='a' && ch<='z')
        printf("lowercase letter', ch);

}
```

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

Ans.

```
int main()
{ int a;
        printf(" enter a number");
        Scanf("%d", &a);
if (a%3==0 && a%2==0);
        printf (" Divisible by 3 and 2);
else
        printf (" Not Divisible by 3 and 2);
}
```

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

Ans

```
int main()
{ int a;
        printf(" enter a number");
        Scanf("%d", &a);
if (a%7==0) || (a%3==0)
        printf (" Divisible ");
else
        printf (" Not");
```

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

Ans

```
int main()
{ int a;
```

```
printf("enter a number");
Scanf("%d", &a);

if (a > 0)
{
        printf("Positive");
}
else if (a < 0)
{
        printf("Negative");
}
else
{
        printf("zero");
}
```

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

Ans

```
int main()
{ char a;
        printf("enter a character");
        Scanf("%c", &'a');

if (a >= 'A' && a <= 'Z')
{
        printf("Uppercase Alphabet");
}
else if (a >= 'a' && a <= 'z')
{
        printf("Lowercase Alphabet");
}
else
{
        printf("Special character");
}
}
```

(7) Write a program to check whether roots of a given quadratic equation are real & distinct, real & equal or imaginary roots.

Ans
```
int main()
{
    int a, b, c, d;
    printf(" enter three numbers: ");
    Scanf("%d %d %d", &a, &b, &c);

    d= bxb - 4xaxc;
if (d>0)
        printf("Real and Distinct roots");
else if (d=0)
        printf(" Real and equal roots");

else
        printf (" Imaginary Roots");
    printf ("\n");
```

(17) Write a program which takes the length of the sides of a tringle as an input. Display whether the tringle is valid or not.

Ans
```
int main()
{ int Side 1, Side 2, Side 3;
```

```
printf(" enter length of three sides of a
        Triangle\n");
Scanf("%d %d %d", &side1, &side2, &side3);

if ((side1 + side2 > side3) && (side2 + side3 > side1)
    && (side3 + side1 > side2))
{
    printf(" it is valid Tringle\n");
}
else
{
    printf(" it is invalid Tringle");
}
    return(0);
```

(11) WAP to take marks of 5 subjects 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.

Ans

```
int main()
{ int a, b, c, d, e;

printf(" enter five subject numbers);
Scanf("%d %d %d %d %d", &a, &b, &c, &d, &e);

if (a>=33 && b>=33 && c>=33 && d>=33 && e>=33)
    printf(" Pass ");
else
    printf ("Fail");
```

(8) WAP to check whether a given yea is leap Year or not.

Ans

```
int main()
{ int year;
    printf("enter a year:");
    Scanf("%d", &year);

if (year % 400 == 0)
{           printf("%d is leap year.", year);
}
else if (year % 100 == 0)
{           printf("%d is not a leap year", year);
}
else if (year % 4 == 0)
{    printf("%d is a leap year.", year);

else { // all other year are not lap year
    printf("%d is not a leap year", year);
}
```

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

Ans

```
int main()
  int a, b, c;

  printf("enter three numbers:");
  Scanf("%d %d %d", &a, &b, &c);
```

```
if (a>b)
{
  if(a>c)
      printf("a");
  else
      printf("c");
}
 else
{
  if (b>c)
      printf("b");
  else
      printf("%d",c);
}
 printf("\n");
 return 0;
```

(18) WAP which takes the month number as an input and display number of days in that month.

Ans

```
int main( )
{
  int month;
printf(" enter month number 1 to 12")
Scanf("%d" &month);

if( month == 1 || month == 3 || month == 5
 month == 7 || month == 8 || month == 10 ||
   month == 12)
```

```
{
    printf("\n 31 Days in this month");
}
else if (month == 4 || month == 6 || month = 9 || month == 11)
{
    printf("\n 30 Days in this month");
}
else if (month == 2)
{
    printf("\n either 28 or 29 Days in this month");
}
else
    printf("\n please enter valid number between
        1 to 12");
    return 0;
}
```

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

Ans

```
int main()
{ int , c, s, profitper, lossper, profit ;

    printf(" Cost price of product is);
    Scanf("%d", &c);

    printf(" Selling price of product is);
    Scanf("%d", &s);
```

```
profit = c - s;
profitper = ((profit * 100) / cost);
if (c > s)
    printf("profit percentage -%d", profitper);
else
    printf("loss percentage -%d", lossper);
```