Practical No : 03

1)

```
#include<stdio.h>
int main()
{
int n1,n2,max;
printf("Enter two numbers");
scanf("%d %d",&n1,&n2);

max=n1;
if(n2>max)
   max=n2;

printf("The highest number is%d\n",max);
}
```

2)

```
#include<stdio.h>
int main()
{
   int n1,n2,n3,min,max;
```

```
    printf("Enter three numbers");
    scanf("%d %d %d",&n1,&n2,&n3);

    max=n1;
    if(N2>max)
    max=n2;

   if(n3>max)
   max=n3;

  min=n1;
  if(n2<min)
  min=n2;

  if(n3<min)
  min=n3;

 printf("The smallest number is%d\n",min);
 printf("The highest number is%d\n",max);
}
```

3)

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

```
int main()
{

char empname[20];
float bs,inc,ns;

printf("Enter employee name");
scanf("%s",&empname);
printf("Enter basic salary");
scanf("%f",&bs);

if(bs>=10000)
   inc=bs*0.15;
else if(bs>=5000)
   inc=bs*0.10;
else
   inc=bs*0.05;

   ns=bs+inc;
   printf("Employee name%s\n",empname);
   printf("New salary%.2f\n",ns);
}
```

4)
```
#include<stdio.h>
#define PI 3.14159
int main()
{
    float radius,diameter,circumference,area;

    printf("Enter the radius of the circle:");
    scanf("%f",&radius);

    printf("Diameter:%2f\n",2*radius);
    printf("Circumference:%2f\n",2*PI*radius);
    printf("Area:%2f\n",PI*radius*radius);

return 0;
}
```

5)
```
#include<stdio.h>
int main()
{
```

```
        int num1,num2;

       printf("Enter the first integer:");
       scanf("%d",&num1);
       printf("Enter the second integer:");
       scanf("%d",&num2);

        if(num2=0&& num1%num2==0)
      {
            printf("%d is a multiple of%d\n",num1,num2);
       }

}
```

6)

```
   #include <stdio.h>
   int main()
  {
   char characters[] = {'A', 'B', 'C', 'a', 'b', 'c', '0', '1', '2', '$', '*', '+', '/', ' '};
   int num_characters = sizeof(characters) / sizeof(char);

   for (int i = 0; i < num_characters; i++)
{
```

```
        printf("The integer equivalent of '%c' is %d\n", characters[i],
characters[i]);
    }

    return 0;
}
```

Practical No : 04

```
1) #include<stdio.h>
    int main()
   {
        int no,ans;
        printf("Enter the number");
        scanf("%d",&no);

       ans=no%2;
       if(ans==1)
          printf("%d is an odd number\n",no);
       else
          printf("%d is an even number\n",no);
  }
```

```
#include<stdio.h>
int main()
{
    int n,k;
    printf("Enter a number");
    scanf("%d",&n);
    k=n%2;
    switch(k)
      {
   case0:printf("%d is a even number",n);
break;
   default:printf("%d is a odd number",n);
break;
}
}
```

2)

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

```
    int n1,n2,a,o,b;
    printf("Enter 1st number");
    scanf("%d",&n1);
    printf("Enter 2nd number");
    scanf("%d",&n2);
    printf("Choose a operation\n 1-->+\n 2-->-\n 3-->*\n 4-->/\n Enter
operation :");
    scanf("%d",&o);
    switch (o)
    {
       case 1 : a=n1+n2;
                printf("Answer is =%d",a);
                break;
       case 2 :if (n1<=n2)
                a=n2-n1;
              else
                a=n1-n2;
                printf("Answer is = %d",a);
                break;
       case 3 :a=n1*n2;
                printf("Answer is = %d",a);
                break;
```

```
        case 4 :if (n1<=n2)
                    a=n2/n1;
                else
                     a=n1/n2;
                    b=n1%n2;
                    printf("Answer is=%d\nReminder=%d",a,b);
                    break;
                    default:printf("Error:Invalid operation");
    }
}
```

3)

```
    #include<stdio.h>
    int main()
   {
        float r,c,a,v,p=3.14159;
       int o;
       printf("Select what you need to calculate\n1.-->Circumference\n2.-
->Area\n3.-->Volume");
      scanf("%d",&o);
      printf("Input the value of the radius");
```

```
    scanf("%f",&r);
    switch(0)
  {
     case 1:c=2*p*r;
     printf("Circumference=%f",c);
     break;
     case 2:a=p*r*r;
     printf("Area=%f",a);
     break;
     case 3:v=4*p*r*r*r/3;
     printf("Volume=%f",v);
      break;
     default:printf("Error!Invalid operation");
  }
  }
```

4)

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

```
printf("Enter a letter :");
scanf("%c",&l);

switch(l)
{
    case 'a':printf("%c is a vowel",l);
                    break;
    case 'e':printf("%c is a vowel",l);
                    break;
    case 'i':printf("%c is a vowel",l);
                    break;
    case 'o':printf("%c is a vowel",l);
                    break;
    case 'u':printf("%c is a vowel",l);
                    break;
    case 'A':printf("%c is a vowel",l);
                    break;
    case 'E':printf("%c is a vowel",l);
                    break;
    case 'I':printf("%c is a vowel",l);
                    break;
```

```
        case 'O':printf("%c is a vowel",l);
                        break;
        case 'U':printf("%c is a vowel",l);
                        break;
        default :printf("%c is not a vowel",l);
        }
```

```
 #include <stdio.h>

int main() {
   int number;
   int sum = 0;

   printf("Enter numbers to add (-1 to stop):\n");

   while (1) {
      scanf("%d", &number);

      if (number == -1) {
         break;  // Exit the loop if -1 is entered
      }

      sum += number;
```

```
    }

    printf("The sum is: %d\n", sum);

    return 0;
}}
```

5)

```
 #include <stdio.h>
 int main()
 {
    int month;
    printf("Enter month number (1-12): ");
    scanf("%d", &month);

    switch(month)
    {
        case 1:
            printf("Total number of days = 31");
            break;
        case 2:
```

```
    printf("Total number of days = 28");
    break;
case 3:
    printf("Total number of days = 31");
    break;
case 4:
    printf("Total number of days = 30");
    break;
case 5:
    printf("Total number of days = 31");
    break;
case 6:
    printf("Total number of days = 30");
    break;
case 7:
    printf("Total number of days = 31");
    break;
case 8:
    printf("Total number of days = 31");
    break;
```

```
        case 9:
            printf("Total number of days = 30");
            break;
        case 10:
            printf("Total number of days = 31");
            break;
        case 11:
            printf("Total number of days = 30");
            break;
        case 12:
            printf("Total number of days = 31");
            break;
        default:
            printf("Invalid input! Please enter month number
between (1-12).");
    }

    return 0;
}
```

Part B

1)

```
#include<stdio.h>
int main()
{
    int x;
    for(x=0;x<=100;x++)
    {
   printf("%d  ",x);
    }
}
```

```
#include<stdio.h>
int main()
{
   int x=0;
   while(x<=100)
   {
      printf("%d  ",x);
      x++;
   }
}
```

```
#include<stdio.h>
int main()
{
    int x=0;
    do
    {
        printf("%d  ",x);
        x++;
    }
        while(x<=100);
}
```

2)

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

```
int mark[10],i,sum,total;
float avg;
for(i=0;i<0;i++)
{
   printf("Enter mark:\n");
   scanf("%f",&mark);
   sum+=mark;
}
avg=sum/10.0;
printf("The sum%d \n",sum);
if(avg<50.0)
{
   printf("fail\n");
}
else{
   printf("pass\n");
}
}
```

3)

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

```
int main()
{
    int number;
    int i=1,factorial=1;
    printf("Enter number: ");
    scanf("%d",&number);
    while(i<=number)
    factorial=i;
    i++;
    printf("factorial is %d",factorial);
 }
```

4)

```
#include<stdio.h>
int main()
{
    int number;
    int total=0;
    int reminder;
    printf("Enter number: ");
    scanf("%d",&number);
```

```
        while(number!=0)
    {
       reminder=number%10;
       total+=reminder;
       number=number/10;
    }
   printf("The output is %d",total);
}
```

5)

```
   #include <stdio.h>
   int main() {
   int number, reversedNumber = 0, remainder;

   printf("Enter an integer: ");
   scanf("%d", &number);

   do {
       remainder = number % 10;  // Get the last digit
```

```
        reversedNumber = reversedNumber * 10 +
remainder;  // Append the digit to reversedNumber
        number /= 10;  // Remove the last digit from number
    } while (number != 0);

    printf("Reversed number: %d\n", reversedNumber);

    return 0;
}
```

6)

```
    #include <stdio.h>
    int main()
    {
        int base,exponent;
        printf("Enter the base: ");
        scanf("%d", &base);
        printf("Enter the exponent: ");
        scanf("%d", &exponent);
```

```
        int result = power(base, exponent);
        printf("%d raised to the power of %d is: %d\n", base, exponent, result);

        return 0;
    }
```

7)

```
  #include <stdio.h>
  int main() {
  int num1 = 0, num2 = 1, nextNum, count;

   printf("The first 10 numbers of the Fibonacci sequence are:\n");
   printf("%d ", num1);
   printf("%d ", num2);

   for (count = 3; count <= 10; count++) {
      nextNum = num1 + num2;
      printf("%d ", nextNum);
```

```
        num1 = num2;
        num2 = nextNum;
       }

         return 0;
      }
```

8)

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

   printf("Enter a number: ");
   scanf("%d", &number);

   if (isArmstrongNumber(number)) {
      printf("%d is an Armstrong number.\n", number);
   } else {
      printf("%d is not an Armstrong number.\n", number);
   }

   return 0;
```

```
}
```

9)

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

printf("ASCII values for letters A to Z:\n");

for (letter = 'A'; letter <= 'Z'; letter++)
 {
  printf("Letter: %c, ASCII value: %d\n", letter, letter);
 }
   return 0;
 }
```

10)

```
#include <stdio.h>
int main()
{
     int x,y;
     for(x=1;x<=5;x++)
    {
```

```
            for(y=1;y<=x;y++)
            {
              printf("* ");
            }
              printf("\n");
        }
    }
```

11)

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

         printf("Enter a positive integer: ");
          scanf("%d", &number);

        if(isprime(number))
          printf("%d is a prime number.\n", number);
        else
          printf("%d is not a prime number.\n", number);

        return 0;
```

```
    }
```

12)

```
#include <stdio.h>
 int main()
{
    int number;
    int sum = 0;
    printf("Enter numbers to add (-1 to stop):\n");

     while (1) {
      scanf("%d", &number);

      if (number == -1) {
     break;  // Exit the loop if -1 is entered
       }
        sum += number;
      }
       printf("The sum is: %d\n", sum);
       return 0;
   }
```

13)

```
#include <stdio.h>
int main() {
int size = 10;
int arr[size];

 printf("Enter %d integers:\n", size);

 for (int i = 0; i < size; i++) {
 scanf("%d", &arr[i]);
  }
 printf("The array is:");

  for (int i = 0; i < size; i++)
 {
     printf(" %d", arr[i]);
  }
     printf("\n”);
    return 0;
}
```

14)

Practical No : 05

1)

```
#include <stdio.h>
int main() {
int array[10];
int i;
 int minValue, maxValue, sum = 0;
 double average;

      printf("Enter 10 integer values:\n");
 for (i = 0; i < 10; i++) {
      printf("Value %d: ", i + 1);
 scanf("%d", &array[i]);
  }
      minValue = array[0];
```

```
        maxValue = array[0];
            for (i = 1; i < 10; i++) {
        if (array[i] < minValue)
        minValue = array[i];
        if (array[i] > maxValue)
         maxValue = array[i];
   }
    for (i = 0; i < 10; i++) {
    sum += array[i];
 }
 average = (double)sum / 10;
printf("\nMinimum value: %d\n", minValue);
printf("Maximum value: %d\n", maxValue);
printf("Average value: %.2f\n", average);

printf("\nValues in reverse order:\n");
for (i = 9; i >= 0; i--) {
printf("%d ", array[i]);
}
```

```
        return 0;
    }
```

02)

```
    #include <stdio.h>
    void scalarSum(int arr1[], int arr2[], int size);
    void vectorSum(int arr1[], int arr2[], int size);
    void vectorProduct(int arr1[], int arr2[], int size);
    void scalarProduct(int arr1[], int arr2[], int size);

      int main() {
      int size;
      printf("Enter the size of the arrays: ");
      scanf("%d", &size);

      int arr1[size], arr2[size];
      printf("Enter the elements of array 1: ");
   for (int i = 0; i < size; i++) {
```

```
    scanf("%d", &arr1[i]);
  }

     printf("Enter the elements of array 2: ");
for (int i = 0; i < size; i++) {
     scanf("%d", &arr2[i]);
}

  printf("Scalar Sum: ");
  scalarSum(arr1, arr2, size);

     printf("Vector Sum: ");
     vectorSum(arr1, arr2, size);

       printf("Vector Product: ");
       vectorProduct(arr1, arr2, size);

      printf("Scalar Product: ");
      scalarProduct(arr1, arr2, size);

return 0;
```

```
}

    void scalarSum(int arr1[], int arr2[], int size) {
    for (int i = 0; i < size; i++) {
        printf("%d ", arr1[i] + arr2[i]);
    }
    printf("\n");
}

void vectorSum(int arr1[], int arr2[], int size) {
    int sum[size];
    for (int i = 0; i < size; i++) {
        sum[i] = arr1[i] + arr2[i];
        printf("%d ", sum[i]);
    }
    printf("\n");
}

void vectorProduct(int arr1[], int arr2[], int size) {
    int product[size];
```

```
    for (int i = 0; i < size; i++) {
        product[i] = arr1[i] * arr2[i];
        printf("%d ", product[i]);
    }
    printf("\n");
}

void scalarProduct(int arr1[], int arr2[], int size) {
    int result = 0;
    for (int i = 0; i < size; i++) {
        result += arr1[i] * arr2[i];
    }
    printf("%d\n", result);
}
```