1) Create C# class Employee with the fields eno, ename, address, designation, mobile number, salary, city, pincode. Create necessary methods to read the information and display the information. The employer contains 10 employees. The employer wants to know the total salary paid to its employees. As a programmer how do you suggest a solution to his problem

```
using System;
using System.Security.Cryptography.X509Certificates;

namespace Employee_Class
{
    public class Program
    {
        public decimal total = 0;
        static void Main(string[] args)
        {
            decimal T = 0;
            Employee[ ] obj = new Employee[10];
            for (int i = 0; i < 10; i++)
            {
                obj[i] = new Employee();
                obj[i].SetEmployeeDetails();
                obj[i].GetEmployeeDetails();
                decimal t = obj[i].salary;
                T = T + t;
            }
            Console.WriteLine("Total salary is " + T);
            }

        }


    class Employee
    {
        public int eno,pincode;
        public string ename;
        public decimal salary;
        public string address,designation,city;
        public long mob_no;
        public void SetEmployeeDetails()
        {
            Console.Write("Enter the Employee Number : ");
            eno = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter the Employee Name : ");
            ename = Console.ReadLine();
            Console.Write("Enter the Address : ");
            address = Console.ReadLine();
            Console.Write("Enter the Designation : ");
            designation = Console.ReadLine();
            Console.Write("Enter the Salary : ");
            salary = Convert.ToDecimal(Console.ReadLine());
            Console.Write("Enter the city Name : ");
            city = Console.ReadLine();
            Console.Write("Enter the pincode : ");
```

```
            pincode = Convert.ToInt32(Console.ReadLine());
        }
        public void GetEmployeeDetails()
        {
            Console.WriteLine("Employee Number is : " + eno);
            Console.WriteLine("Employee Name : " + ename);
            Console.WriteLine("Address is : " + address);
            Console.WriteLine("Designation is : " + designation);
            Console.WriteLine("Salary is : " + salary);
            Console.WriteLine("City Name is : " + city);
            Console.WriteLine("Pincode is : " + pincode);
        }
    }
}
```

2) Create a C# class to read the book information to a library which includes booknumber, name, pages, issn number, price, year_of_publication. Use C# Properties to store the information into these variables and retrieve the information.

```
using System;
namespace MyApplication
{
    class Program
    {
        static void Main(string[] args)
        {
            Person myObj = new Person();
            Console.WriteLine("Enter Book number:");
            myObj.book_no = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Book number:"+ myObj.book_no );
            Console.WriteLine("Enter book name");
            myObj.name = Console.ReadLine();
            Console.WriteLine("book name"+myObj.name);
            Console.WriteLine("Enter no of pages");
            myObj.pages = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("no of pages"+myObj.pages);
            Console.WriteLine("Enter issn number");
            myObj.issn_number = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("issn number"+myObj.issn_number);
            Console.WriteLine("Enter price");
            myObj.price = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("price"+myObj.price);
            Console.WriteLine("Enter year_of_publication");
            myObj.year_of_publication = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Year of publication: " + myObj.year_of_publication);
        }
    }
    class Person
    {
        public int book_no
        { get; set; }
        public string name
        { get; set; }
```

```
        public int pages
        { get; set; }
        public int issn_number
        { get; set; }
        public int price
        { get; set; }
        public int year_of_publication
        { get; set; }
    }
}
```

3) Write a C# program of jagged array which declares, initializes and traverse jagged arrays.

```
public class JaggedArrayTest
{
    public static void Main()
    {
        int[][] arr = new int[2][];// Declare the array

        arr[0] = new int[] { 11, 21, 56, 78 };// Initialize the array
        arr[1] = new int[] { 42, 61, 37, 41, 59, 63 };

        // Traverse array elements
        for (int i = 0; i < arr.Length; i++)
        {
            for (int j = 0; j < arr[i].Length; j++)
            {
                System.Console.Write(arr[i][j]+" ");
            }
            System.Console.WriteLine();
        }
    }
}
```

4) Create a class Student with the filed sno, sname, marks in three subjects. Create a method SetStudentDetails() which will read the information from the student. Create another method GetStudentDetails() which will display the information. Also, another method to compute the average mark of the student in three subject. Display the information.

```
using System;
namespace Student_Class
{
    public class Program
    {
        static void Main(string[] args)
        {
            Student obj = new Student();
            obj.SetStudentDetails();
            Console.WriteLine();
            obj.GetStudentDetails();
        }
    }
    class Student
```

```
    {
        int sno;
        string sname;
        float m1, m2, m3;
        void SetStudentDetails()
        {
            sno = Convert.ToInt32(Console.ReadLine());
            sname = Console.ReadLine();
            m1 = Convert.ToDecimal(Console.ReadLine());
            m2 = Convert.ToDecimal(Console.ReadLine());
            m3 = Convert.ToDecimal(Console.ReadLine());
        }
        void GetStudentDetails()
        {
            Console.Write("SNO is: " + sno);
            Console.Write("Sname is: " + sname);
            Console.WriteLine("Marks are: " + m1 + "," + m2 + "," + m3);
        }
        void avg()
        {
            Console.WriteLine("Average is: " + (m1 + m2 + m3) / 3);
        }
        static void Main(string[] args)
        {
            Student1 s = new Student1();
            s.SetStudentDetails();
            s.GetStudentDetails();
            s.avg();
        }
    }
}
```

5) Write a C# program which takes variable number of parameters i.e using params

```
using System;
namespace AccessSpecifiers
{
    class Program
    {
        // User defined function
        public void Show(params int[] val) // Params Paramater
        {
            for (int i=0; i<val.Length; i++)
            {
                Console.WriteLine(val[i]);
            }
        }
        // Main function, execution entry point of the program
        static void Main(string[] args)
        {
            Program program = new Program(); // Creating Object
```

```
            program.Show(2,4,6,8,10,12,14); // Passing arguments of variable length
        }
    }
}
```

6) Write a C# program to create a struct Rectangle which has two data members width and height, where we are using constructor to initialize data and method to calculate area of rectangle

```
using System;
public struct Rectangle
{
   public int width, height;

   public Rectangle(int w, int h)
   {
      width = w;
      height = h;
   }
   public void areaOfRectangle() {
    Console.WriteLine("Area of Rectangle is: "+(width*height)); }
   }
public class TestStructs
{
   public static void Main()
   {
      Rectangle r = new Rectangle(5, 6);
      r.areaOfRectangle();
   }
}
```

7) Write a C# program on Multicast Delegates

```
using System;
namespace delegate_Example4
{

class Program
{
public delegate void delmethod(int x, int y);

public class TestMultipleDelegate
{
public void plus_Method1(int x, int y)
{
Console.Write("You are in plus_Method");
```

```
Console.WriteLine(x + y);
}

public void subtract_Method2(int x, int y)
{
Console.Write("You are in subtract_Method");
Console.WriteLine(x - y);
}
}

static void Main(string[] args)
{

TestMultipleDelegate obj = new TestMultipleDelegate();
delmethod del = new delmethod(obj.plus_Method1);

// Here we have multicast
del += new delmethod(obj.subtract_Method2);
// plus_Method1 and subtract_Method2 are called
del(50, 10);
Console.WriteLine();
//Here again we have multicast
del -= new delmethod(obj.plus_Method1);
//Only subtract_Method2 is called
del(20, 10);
Console.ReadLine();
}
}
}
```

8) Write a C# program to create an interface Drawable which has draw() method. Its implementation is provided by two classes: Rectangle and Circle.

```
using System;
public interface Drawable
{
   void draw();
}
public class Rectangle : Drawable
{
   public void draw()
   {
      Console.WriteLine("drawing rectangle...");
   }
}
public class Circle : Drawable
{
   public void draw()
   {
      Console.WriteLine("drawing circle...");
```

```
    }
}
public class TestInterface
{
    public static void Main()
    {
        Drawable d;
        d = new Rectangle();
        d.draw();
        d = new Circle();
        d.draw();
    }
}
```

9)

```
using System;


public abstract class New {

  public abstract void compute();

}


public class Abc : New

{

    int l;

    int b;

    int h;

    public Abc(int l,int b,int h)

    {

        this.l=l;

        this.b=b;
```

```
        this.h=h;
    }
    public override void compute()
    {
        Console.Write("Volume of polygon is:");
        Console.WriteLine(l*b*h);
    }
}

class Polygon
{
    public static void Main(string[] args)
    {
      New p;
      p=new Abc(10,20,30);
      p.compute();
    }
}
```