```
Assignment no – 1

Roll no-27
1) Write a program to calculate a simple message

Code:
using System;

namespace Journal
{
    class SimpleMessage
    {
        static void Main(String [] args)
        {
            Console.WriteLine("Hello World...");
            Console.ReadKey();
        }
        }
}
```

Output

Hello World...

Modulus of 67 and 4 is 3

2) Write a program to calculate all arithmetic operations.

```
using System;
namespace Journal
  class Arithmatic
     static void Main(string[] args)
       int x, y, z;
        Console.WriteLine("Enter first number");
       x = int.Parse(Console.ReadLine()):
       Console.WriteLine("Enter second number");
       y = int.Parse(Console.ReadLine());
        Console.WriteLine("Sum of {0} and {1} is {2}", x, y, z);
        z = x - y;
       Console.WriteLine("Substraction of {0} and {1} is {2}", x, y, z);
        z = x * y;
        Console.WriteLine("Multiplication of {0} and {1} is {2}", x, y, z);
        z = x / y;
        Console.WriteLine("Division of {0} and {1} is {2}", x, y, z);
        z = x \% y;
       Console.WriteLine("Modulus of {0} and {1} is {2}", x, y, z);
       Console.ReadLine();
  }
}
Output:
Enter first number
67
Enter second number
Sum of 67 and 4 is 71
Substraction of 67 and 4 is 63
Multiplication of 67 and 4 is 268
Division of 67 and 4 is 16
```

3) Write a program to calculate compound interest.

Code:

```
using System;
namespace Journal
  class CompoundInterest
     static void Main (String[] args)
       double p, n, r, i;
       Console.WriteLine("Enter principle amount");
       p = double.Parse(Console.ReadLine());
       Console.WriteLine("Enter number of years");
       n = double.Parse(Console.ReadLine());
       Console.WriteLine("Enter rate");
       r = double.Parse(Console.ReadLine());
       i = p * Math.Pow((1 + (r / 100)), n) - p;
       Console.WriteLine("Interest is {0}", i);
       Console.ReadKey();
     }
  }
}
```

Output:

Enter principle amount

500000

Enter number of years

3

Enter rate

12

Interest is 202464

4) Write a program to calculate area and circumference of circle.

```
Code:
```

```
using System;
using System.Collections.Generic;
using System.Ling;
using System.Text;
using System. Threading. Tasks;
namespace Journal
  class Class2
  {
     static void Main(String[] args)
       double radius, circum, area;
       Console.WriteLine("Enter radius");
       radius = double.Parse(Console.ReadLine());
       circum = 2 * 3.1415 * radius;
       area = 3.1415 * Math.Pow(radius, 2);
       Console.WriteLine("The circumference and area of circle with radius {0} unit are
{1} unit and {2} sq unit", radius, circum, area);
       Console.ReadKey();
     }
  }
}
```

Output-

Enter radius

5

The circumference and area of circle with radius 5 unit are 31.415 unit and 78.5375 sq unit

5) Write a program to convert centigrade of temperature.

Code:

```
Using system;
namespace ConsoleApplication1
{
    class Temperature
    {
        static void Main(string[] args)
         {
            float c, f;
            Console.WriteLine("Enter celcius temperature");
            c = float.Parse(Console.ReadLine());
            f = (9 * c)/5 + 32;
            Console.WriteLine("The farenheit temp is {0}", f);
            Console.ReadKey();
        }
    }
}
```

Output:

Enter celcius temperature

34

The farenheit temp is 93.2

6) Write a program to calculate gross salary if HRA 20% and DA= 500 of basic salary **Code-**

```
using System;
namespace ConsoleApplication
   class Salary
     static void Main(String[] args)
        double basicSalary, da, hra, grossSalary;
        Console.Write("Enter Basic Salary:");
        basicSalary = Convert.ToDouble(Console.ReadLine());
        hra = (basicSalary * 20) / 100;
        da = 500;
        grossSalary = basicSalary + da + hra;
        Console.WriteLine("\nDearness allowance = {0}", da);
Console.WriteLine("\nHouse Rent 20% of basicSalary = {0}", hra);
        Console.WriteLine("Gross Salary = {0}", grossSalary);
        Console.ReadKey();
     }
  }
}
```

Output-

Enter Basic Salary:20000

Dearness allowance = 500

House Rent 20% of basicSalary = 4000

Gross Salary = 24500

7. Write a program to calculate squre and cube of input number.

Code-

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System. Threading. Tasks;
namespace journal_1
  class Class5
  {
     static void Main(string [] args)
     float no, sq, c;
       Console. WriteLine ("Enter values of number:");
       no = float.Parse(Console.ReadLine());
       sq = no * no;
       c = no * no * no;
       Console.WriteLine("Square of number {0}", sq);
       Console.WriteLine("cube of number {0}", c);
       Console.ReadKey();
    }
  }
```

Output-

Enter values of number:

6

Square of number 36

cube of number 216

8) Write a program to calculate addition using command line.

Code:

```
using System;
namespace ComLineArg
{
  class CmdLine
  {
    static void Main(string[] args)
    {
       int sum = 0;
      if (args.Length > 0)
       {
            foreach (String obj in args)
            {
                 sum = sum + int.Parse(obj);
            }
            Console.WriteLine("sum of numbers is {0}", sum);
            }
       }
    }
}
```

Output:

C:\Users\Suhag\Documents\Visual Studio 2015\WebProjects\journal 1\journal 1\bin\Debug>"journal 1.exe" 34 5 3 6 6 7 7 23

sum of numbers is 91

9) Write a program to input three subject marks print total marks and percentage using command argument.

Code-

```
using System;
namespace ConsoleApplication
  class Per
  {
     static void Main(string[] args)
       double rollno, Maths, Management, Account, total;
       double per;
       string name;
       rollno = double.Parse(args[0]);
       name = args[1];
       Maths = double.Parse(args[2]);
       Management = double.Parse(args[3]);
       Account = double.Parse(args[4]);
       total = Maths + Management + Account;
       per = (total / 300) * 100;
       Console.Write("rollno: {0}\n name of student: {1}\n", rollno, name);
       Console.Write("marks in Maths: {0}\n marks in Mangement: {1}\n marks in
Account:{2}\n", Maths, Management, Account);
       Console.Write("total marks {0} \n ", total);
       Console.Write(" per = {0} ", per);
       Console.ReadKey();
    }
  }
}
C:\Users\Suhag\Documents\Visual Studio 2015\WebProjects\journal 1\journal
1\bin\Debug>"journal 1.exe" 27 seema 56 60 64
rollno: 27
name of student: seema
marks in Maths: 56
marks in Mangement: 60
marks in Account:64
total marks 180
 per = 60
```

10.Write a program for multiple main function

Code:

```
using System;
namespace Journal
{
    public class Classone
    {
        static void Main(String[] args)
        {
            Console.WriteLine("class no 1");
            Console.ReadKey();
        }
    }
    public class classtwo
    {
        static void Main(String[] args)
        {
            Console.WriteLine("class no 2");
            Console.ReadKey();
        }
    }
}
```

Output

Class 1

class no 1

Class 2

class no 2

```
Assignment no – 2
Roll no 27
1) Write a program using if statement.
Code:
using System;
namespace ConsoleApplication1
  class Program
    static void Main(string[] args)
       Console.WriteLine("Enter your age");
       int age = int.Parse(Console.ReadLine());
       if(age >= 18)
         Console.WriteLine("You are eligible for voting");
       Console.ReadKey();
  }
}
Output:
Enter your age
```

20

You are eligible for voting

2) Write a program using if_else statement.

Code:

3 is odd

```
using System;
namespace ConsoleApplication1
  class Program1
    static void Main(string[] args)
       Console.WriteLine("Enter a number");
       int num = int.Parse(Console.ReadLine());
       if (num \% 2 == 0)
         Console.WriteLine("{0} is even", num);
       }
       else
       {
         Console.WriteLine("{0} is odd", num);
       Console.ReadKey();
  }
}
Enter a number
```

3) Write a program to calculate percentage & display grade using Nested if_else statement.

```
using System;
namespace ConsoleApplication1
  class Class2
     public static void Main()
       Console.WriteLine("Enter 5 subject marks");
       int ma, vp, db, net, ec;
       ma = int.Parse(Console.ReadLine());
       vp = int.Parse(Console.ReadLine());
       db = int.Parse(Console.ReadLine());
       net = int.Parse(Console.ReadLine());
       ec = int.Parse(Console.ReadLine());
       int max_marks = 500;
       int total = ma + vp + db + net + ec;
       char grade = 'F';
       double percentage = ((double)(total) / max_marks) * 100;
       if (percentage >= 90)
          grade = 'A';
       else
          if (percentage >= 80 && percentage <= 89)
            grade = 'B';
          }
          else
            if (percentage >= 60 && percentage <= 79)
               grade = 'C';
            }
            else
               if (percentage >= 33 && percentage <= 59)
                 grade = 'D';
               else
                 grade = 'F';
```

```
}
}

Console.WriteLine("Percentage = {0}", percentage);
Console.WriteLine("Grade = {0}", grade);
Console.ReadKey();
}

}

}
```

Output-

Enter 5 subject marks

56

45

67

76

56

Percentage = 60

Grade = C

4) Write a program to enter any character & frame it is capital Letter, small letter, digit or special symbol.

```
using System;
class ConsoleApp
  public static void Main(String[] args)
     char ch;
     Console.WriteLine("Enter any character");
     ch = char.Parse(Console.ReadLine());
     if (ch >= '0' \&\& ch <= '9')
       Console.WriteLine("\n" + ch + " is an numeric character");
     if (ch >= 'A' \&\& ch <= 'Z')
       Console.WriteLine("\n" + ch + " is an UpperCase character");
     if (ch >= 'a' && ch <= 'z')
       Console.WriteLine("\n" + ch + " is an LowerCase character");
     if (ch >= 'A' \&\& ch <= 'Z')
       Console.WriteLine("\n" + ch + " is an UpperCase character");
     if (ch >= 33 \&\& ch <= 47 || ch >= 58 \&\& ch <= 64)
       Console.WriteLine("\n" + ch + " is an special character");
     Console.ReadKey();
  }
Output-
Enter any character
%
% is an special character
```

5) Write a program using else_ladder.

```
using System;
namespace ConsoleApplication1
  class Class3
     public static void Main()
       Console.WriteLine("Enter 5 subject marks");
       int ma, vp, db, net, ec;
       ma = int.Parse(Console.ReadLine());
       vp = int.Parse(Console.ReadLine());
       db = int.Parse(Console.ReadLine());
       net = int.Parse(Console.ReadLine());
       ec = int.Parse(Console.ReadLine());
       int max_marks = 500;
       int total = ma + vp + db + net + ec;
       char grade = 'F';
       double percentage = ((double)(total) / max_marks) * 100;
       if (percentage >= 90)
          grade = 'A';
       else if (percentage >= 80 && percentage <= 89)
          grade = 'B';
       else if (percentage >= 60 && percentage <= 79)
          grade = 'C';
       else if (percentage >= 33 && percentage <= 59)
          grade = 'D';
       }
       else
          grade = 'F';
       Console.WriteLine("Percentage = {0}", percentage);
       Console.WriteLine("Grade = {0}", grade);
       Console.ReadKey();
    }
  }
```

}

Output-

Enter 5 subject marks

45

65

67

76

55

Percentage = 61.6

Grade = C

6) Write a program to calculate factorial of given number using For loop

Code:

```
using System;
public class FactorialExample
{
    public static void Main(string[] args)
    {
        int i, fact = 1, number;
        Console.Write("Enter any Number: ");
        number = int.Parse(Console.ReadLine());
        for (i = 1; i <= number; i++)
        {
            fact = fact * i;
        }
        Console.Write("Factorial of " + number + " is: " + fact);
        Console.ReadKey();
    }
}</pre>
```

Output-

Enter any Number: 6

Factorial of 6 is: 720

7) Write a program to input number & print sum of digit using While loop.

Code:

```
using System;
namespace sumofdigits
  public class SumOfDigits
     public static void Main(string[] args)
       int n, sum = 0, m;
       Console.Write("Enter one number: ");
       n = int.Parse(Console.ReadLine());
       while (n > 0)
         m = n \% 10;
         sum = sum + m;
         n = n / 10;
       Console.Write("Sum is = " + sum);
       Console.ReadKey();
     }
  }
}
```

Output-

Enter one number: 33445

Sum is = 19

8) Write a program to print Fibonacci series using do_while Loop.

Code:

```
using System;
namespace fibseries
  public class ConsoleApp
     public static void Main(string[] args)
       int n1 = 0, n2 = 1, n3, i, number;
       Console.Write("Enter the number of elements: ");
       number = int.Parse(Console.ReadLine());
       Console.Write(n1 + " " + n2 + " ");
       i = 2;
       do
          ++i;
          n3 = n1 + n2;
          Console.Write(n3 + " ");
          n1 = n2;
          n2 = n3;
       while (i < number);
       Console.ReadKey();
    }
  }
}
```

Output

Enter the number of elements: 22

0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946

```
9) Write a program to print following pattern
Code:
using System.IO;
using System;
namespace pattern
  class Program2
     static void Main()
       for (int i = 1; i <= 5; ++i)
          for (int j = 1; j <= i; ++j)
            Console.Write("*");
          Console.WriteLine();
       Console.ReadKey();
  }
}
Output-
```

10) Write a program using break & continue statement

Code:

9

```
using System;
class BreakContinue
  static public void Main()
    for (int i = 1; i < 15; i++)
       if(i==6)
          continue;
       if (i == 10)
          break;
       Console.WriteLine(i);
     Console.ReadKey();
  }
}
Output-
1
2
3
4
5
7
8
```

```
Roll no-27
11) Write a program for menu driven using switch
1] Odd or Even
2] Armstrong or Not
3] Palindrome or Not
4] Prime or Not
5] Exit
Code:
using System;
public class SwitchSt
  public static void Main(String[] args)
     int temp, r, sum = 0;
     while (true)
       int op, num;
       Console.WriteLine("1. Odd/Even \n 2. Armstrong \n 3. Palindrome \n 4. Prime \n
5. Exit \n Choose operation");
       op = int.Parse(Console.ReadLine());
       switch (op)
       {
            Console.WriteLine("Enter num");
            num = int.Parse(Console.ReadLine());
            if (num \% 2 == 0)
               Console.WriteLine("{0} is even", num);
            }
            else
               Console.WriteLine("{0} is odd", num);
            break;
          case 2:
            Console.WriteLine("Enter num");
            num = int.Parse(Console.ReadLine());
            sum = 0;
            temp = num;
            while (num > 0)
```

r = num % 10;

```
sum = sum + (r * r * r);
       num = num / 10;
     if (temp == sum)
       Console.Write("Armstrong Number.");
     }
     else
     {
       Console.Write("Not Armstrong Number.");
     break;
  case 3:
     Console.WriteLine("Enter num");
     num = int.Parse(Console.ReadLine());
     sum = 0;
     temp = num;
     while (num > 0)
       r = num \% 10;
       sum = (sum * 10) + r;
       num = num / 10;
     if (temp == sum)
       Console.Write("Number is Palindrome.");
       Console.Write("Number is not Palindrome");
     break;
  case 4:
     Console.WriteLine("Enter num");
     num = int.Parse(Console.ReadLine());
     int n = num, i, m = 0, flag = 0;
     m = n / 2;
     for (i = 2; i \le m; i++)
       if (n \% i == 0)
          Console.Write("Number is not Prime.");
         flag = 1;
          break;
       }
     if (flag == 0)
       Console.Write("Number is Prime.");
     break;
  case 5:
     System.Environment.Exit(0);
     break;
Console.ReadKey();
```

```
}
}
Output:
```

- 1. Odd/Even
- 2. Armstrong
- 3. Palindrome
- 4. Prime
- 5. Exit

Choose operation

1

Enter num

4

- 4 is even
- 1. Odd/Even
- 2. Armstrong
- 3. Palindrome
- 4. Prime
- 5. Exit

Choose operation

Enter num

3

3 is odd

- 1. Odd/Even
- 2. Armstrong
- 3. Palindrome
- 4. Prime
- 5. Exit

Choose operation

2

Enter num

153

- 1. Odd/Even mber.
- 2. Armstrong
- 3. Palindrome
- 4. Prime
- 5. Exit

Choose operation

3

Enter num

343

- 1. Odd/Even lindrome.
- 2. Armstrong
- 3. Palindrome
- 4. Prime
- 5. Exit

Choose operation

4

Enter num

17

- 1. Odd/Even ime.
- 2. Armstrong
- 3. Palindrome
- 4. Prime
- 5. Exit

Choose operation

```
Assignment No 3
Roll no-27
1) Write a program for implicit casting.
Code:
using System;
namespace ConsoleApplication1
  class Program
    static void Main(string[] args)
       int intNo = 23;
       double doubleNo = intNo;
       Console.WriteLine("intNo = {0}", intNo);
       Console.WriteLine("doubleNo = {0}", doubleNo);
       Console.ReadKey();
    }
  }
}
Output-
intNo = 23
doubleNo = 23
```

```
Roll no-27
```

2) Write a program for explicit casting.

```
using System;
namespace ConsoleApplication1
{
    class Program
    {
        static void Main(string[] args)
        {
            double doubleNo = 34.67;
            int intNo = (int)doubleNo;
            Console.WriteLine("doubleNo = {0}", doubleNo);
            Console.WriteLine("intNo = {0}", intNo);

            Console.ReadKey();
        }
    }
}
Output-
doubleNo = 34.67
intNo = 34
```

3) Write a program for pass by value.

```
using System;
namespace ConsoleApp
  class PassByValue
     public void swap(int x, int y)
       Console.WriteLine("Before swap in swap, value of x : {0}", x);
       Console.WriteLine("Before swap in swap, value of y: {0}", y);
       int temp:
       temp = x;
       x = y;
       y = temp;
       Console.WriteLine("After swap in swap, value of x: {0}", x);
       Console.WriteLine("After swap in swap, value of y: {0}", y);
     static void Main(string[] args)
       PassByValue n = new PassByValue();
       int a = 100;
       int b = 200:
       Console.WriteLine("Before swap, value of a: {0}", a);
       Console.WriteLine("Before swap, value of b: {0}", b);
       Console.WriteLine("After swap, value of a: {0}", a);
       Console.WriteLine("After swap, value of b: {0}", b);
       Console.ReadLine();
    }
  }
}
Output-
Before swap, value of a: 100
Before swap, value of b: 200
Before swap in swap, value of x: 100
Before swap in swap, value of y: 200
After swap in swap, value of x: 200
After swap in swap, value of y: 100
After swap, value of a: 100
After swap, value of b: 200
```

4) Write a program for pass by reference.

```
using System;
namespace ConsoleApp2
  class PassByRef
     public void swap(ref int x, ref int y)
       Console.WriteLine("Before swap in swap, value of x : {0}", x);
       Console.WriteLine("Before swap in swap, value of y: {0}", y);
       int temp:
       temp = x;
       x = y;
       y = temp;
       Console.WriteLine("After swap in swap, value of x: {0}", x);
       Console.WriteLine("After swap in swap, value of y: {0}", y);
     static void Main(string[] args)
       PassByRef n = new PassByRef();
       int a = 100;
       int b = 200:
       Console.WriteLine("Before swap, value of a: {0}", a);
       Console.WriteLine("Before swap, value of b: {0}", b);
       n.swap(ref a, ref b);
       Console.WriteLine("After swap, value of a: {0}", a);
       Console.WriteLine("After swap, value of b: {0}", b);
       Console.ReadLine();
    }
  }
}
Output-
Before swap, value of a: 100
Before swap, value of b: 200
Before swap in swap, value of x: 100
Before swap in swap, value of y: 200
After swap in swap, value of x: 200
After swap in swap, value of y: 100
After swap, value of a: 200
After swap, value of b: 100
```

5) Write a program for out parameter.

Code:

```
using System;
namespace ConsoleApp3
{
  class OutParam
  {
     static public void Main()
     {
        int i;
        Addition(out i);
        Console.WriteLine("The addition of the value is: {0}", i);
        Console.ReadKey();
     }
     public static void Addition(out int i)
     {
        i = 30;
        i += i;
     }
}
```

Output-

The addition of the value is: 60

6) Write a program for input array & print the elements & sum of elements.

```
using System;
namespace ConsoleApplication1
  class Class4
     static void Main()
       int[] arr = new int[10];
       int i;
       Console.WriteLine("Enter 10 numbers");
       for (i = 0; i < 10; i++)
          Console.Write("element - {0}: ", i);
          arr[i] = Convert.ToInt32(Console.ReadLine());
       int sum = 0;
       Console.Write("\nElements in array are: ");
       for (i = 0; i < 10; i++)
          sum = sum + arr[i];
          Console.WriteLine("{0} ", arr[i]);
       Console.WriteLine("Sum: {0}", sum);
       Console.ReadKey();
  }
Output-
Enter 10 numbers
element - 0:1
element - 1:2
element - 2:3
element - 3:4
element - 4:5
element - 5:6
element - 6:7
element - 7:8
element - 8:5
```

element - 9:4

Elements in array are: 1

Sum : 45

7) Write a program for boxing.

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System. Threading. Tasks;
namespace ConsoleApplication1
  class Class5
     static void Main()
       int no = 10;
       object obj = no;
       Console.WriteLine("no = {0}", no);
       Console.WriteLine("int from obj = {0}", (int)obj);
       Console.ReadKey();
     }
  }
}
```

Output-

```
no = 10
int from obj = 10
```

8) Write a program for unboxing.

```
using System;
namespace ConsoleApplication3
{
    class Class5
    {
        static void Main()
        {
            object obj = 10;
            int no = (int)obj;

            Console.WriteLine("int from obj = {0}", (int)obj);
            Console.WriteLine("no = {0}", no);
            Console.ReadKey();
        }
    }
}
Output-
int from obj = 10
no = 10
```

9) Write a program for partial class.

```
Code:
```

```
using System;
namespace PartialClass
  public partial class Employee
     public int Empld { get; set; }
     public string FirstName { get; set; }
     public string LastName { get; set; }
     public int Age { get; set; }
  }
  public partial class Employee
     public Employee(int Id, string FName, string LName)
       this.Empld = Id;
       this.FirstName = FName;
       this.LastName= LName;
    }
    static void Main()
       Employee e = new Employee(7, "Seema", "Bhanuse");
       e.DisplayEmployeeInfo();
       Console.ReadKey();
     public void DisplayEmployeeInfo()
       Console.WriteLine("Employee Info: ");
       Console.WriteLine(this.EmpId + " " + this.FirstName + " " + this.LastName);
    }
     public void Save(int id, string firstName, string lastName)
       Console.WriteLine("Saved!");
  }
```

Output-

Employee Info:

7 Seema Bhanuse

10) Write a program for passing array to the function.

Code:

arr[4] = Thu

arr[5] = Fri

arr[6] = Sat

```
using System;
class PassArray
  static void Main()
     string[] weekDays = { "Sun", "Mon", "Tue", "Wed", "Thu", "Fri", "Sat" };
     printArray(weekDays);
     Console.ReadKey();
  }
  static void printArray(string[] arr)
     Console.WriteLine("Elements are: ");
     for (int i=0; i< arr.Length; i++)
        Console.WriteLine("arr[{0}] = {1}", i, arr[i]);
  }
}
Output-
Elements are:
arr[0] = Sun
arr[1] = Mon
arr[2] = Tue
arr[3] = Wed
```