

## Example No 01:

### Input:

```
using System;

namespace Computer_Programming_Lab_08
{
    class Program
    {
        static void Main(string[] args)
        {
            int m = 5; //Rows
            int n = 4; //Col
            string[,] profile = new string[m, n];
            //titles
            profile[0, 0] = "Name";
            profile[0, 1] = "Phone No";
            profile[0, 2] = "Designation";
            profile[0, 3] = "Department";
            //row 1
            profile[1, 0] = "Abdullah";
            profile[1, 1] = "000000000";
            profile[1, 2] = "Jr.Dev";
            profile[1, 3] = "BSE";
            //row 2
            profile[2, 0] = "Shahzaib";
            profile[2, 1] = "000000000";
            profile[2, 2] = "Sr.Dev";
            profile[2, 3] = "BSCS";
            // Printing of 2D Array
            for (int i = 0; i < m; i++)
            {
                for (int j = 0; j < n; j++)
                {
                    Console.Write("{0}\t\t", profile[i, j]);
                }
                Console.WriteLine();
            }
        }
    }
}
```

### Output:

```
Microsoft Visual Studio Debug Console
```

Name	Phone No	Designation	Department
Abdullah	000000000	Jr.Dev	BSE
Shahzaib	000000000	Sr.Dev	BSCS

```
C:\Users\Spring2020\Desktop\Cp Lab 08 tasks\Computer Programming Lab 08\Computer
3.1\Computer Programming Lab 08.exe (process 8572) exited with code 0.
Press any key to close this window . . .
```

## Example No 02:

### Input:

```
using System;

namespace CP_Lab_Tasks
{
    class Program
    {
        static void Main(string[] args)
        {
            int m;
            int n = 4;
            Console.Write("Enter the number of student : ");
            m = int.Parse(Console.ReadLine());
            string[,] profile = new string[m + 1, n];
            //For title
            profile[0, 0] = "NAME";
            profile[0, 1] = "AGE";
            profile[0, 2] = "COURSE";
            profile[0, 3] = "SEMESTER";
            //Inputing the values for the table
            for (int i = 1; i < m + 1; i++)
            {
                Console.WriteLine("\nEnter data for profile {0}", i);
                for (int j = 0; j < n; j++)
                {
                    if (j == 0)
                    {
                        Console.Write("Enter the name of the student : ");
                        profile[i, j] = Console.ReadLine();
                    }
                    else if (j == 1)
                    {
                        Console.Write("Enter the age of the student : ");
                        profile[i, j] = Console.ReadLine();
                    }
                    else if (j == 2)
                    {
                        Console.Write("Enter the course of the student : ");
                        profile[i, j] = Console.ReadLine();
                    }
                    else if (j == 3)
                    {
                        Console.Write("Enter the semester of the student : ");
                        profile[i, j] = Console.ReadLine();
                    }
                }
            }
            for (int i = 0; i < m + 1; i++)
            {
                for (int j = 0; j < n; j++)
                {
                    Console.Write(" " + profile[i, j].PadRight(10));
                }
                Console.WriteLine();
            }
            Console.ReadLine();
        }
    }
}
```

```
}
```

## Output:

```
C:\Users\ESHOP\source\repos\CP Lab Tasks\CP Lab Tasks\bin\Debug\netcoreapp3.1\CP Lab Tasks.exe
Enter the number of student : 2

Enter data for profile 1
Enter the name of the student : Abdullah
Enter the age of the student : 19
Enter the course of the student : BSE
Enter the semester of the student : 1st

Enter data for profile 2
Enter the name of the student : Ahmed
Enter the age of the student : 18
Enter the course of the student : BSE
Enter the semester of the student : 1st
NAME    AGE    COURSE  SEMESTER
Abdullah 19     BSE     1st
Ahmed    18     BSE     1st
```

**Task No 01:** Enter the first matrix and then display it. Secondly, enter the second matrix and then display it. In the result by apply 2D arrays show Addition, subtraction of 2 matrixes.

## Input:

```
using System;

namespace CP_Lab_Tasks
{
    class Program
    {
        static void Main(string[] args)
        {
            int rows1, rows2, col1, col2;

            Console.Write("Enter the number of rows for matrix 1 : ");
            rows1 = int.Parse(Console.ReadLine());
            Console.Write("Enter the number of columns for matrix 1 : ");
            col1 = int.Parse(Console.ReadLine());

            Console.ReadLine();
            Console.WriteLine("Enter the elements of first matrix");
            int[,] matrix1 = new int[rows1, col1];
            for (int i = 0; i < rows1; i++)
            {
                for (int j = 0; j < col1; j++)
                {
                    Console.Write("Enter the element ({0},{1}) = ", i, j);
                    matrix1[i, j] = int.Parse(Console.ReadLine());
                }
            }

            for (int i = 0; i < rows1; i++)
            {
                for (int j = 0; j < col1; j++)
                {
                    Console.Write(" " + matrix1[i, j]);
                }
                Console.WriteLine();
            }
        }
    }
}
```

```

Console.WriteLine("Enter the number of rows for matrix 2 : ");
rows2 = int.Parse(Console.ReadLine());
Console.WriteLine("Enter the number of columns for matrix 2 : ");
col2 = int.Parse(Console.ReadLine());
Console.ReadLine();
Console.WriteLine("Enter the elements of first matrix");
int[,] matrix2 = new int[rows2, col2];
for (int k = 0; k < rows2; k++)
{
    for (int l = 0; l < col2; l++)
    {
        Console.WriteLine("Enter the element ({0},{1}) = ", k, l);
        matrix2[k, l] = int.Parse(Console.ReadLine());
    }
}

for (int k = 0; k < rows2; k++)
{
    for (int l = 0; l < col2; l++)
    {
        Console.WriteLine(" " + matrix2[k, l]);
    }
    Console.WriteLine();
}
Console.ReadLine();

int[,] result = new int[rows1, col2];
for (int i = 0; i < rows1; i++)
{
    for (int j = 0; j < col2; j++)
    {
        result[i, j] = 0;
        for (int k = 0; k < col1; k++)
        {
            result[i, j] = result[i, j] + matrix1[i, k] * matrix2[k, j];
        }
    }
}
Console.WriteLine("After Multiplication result is\n");
for (int i = 0; i < rows1; i++)
{
    for (int j = 0; j < col2; j++)
    {
        Console.WriteLine(result[i, j] + " ");
    }
    Console.WriteLine();
}
}
}
}

```

## Output:

```
Microsoft Visual Studio Debug Console
Enter the number of rows for matrix 1 : 2
Enter the number of columns for matrix 1 : 3

Enter the elements of first matrix
Enter the element (0,0) = 2
Enter the element (0,1) = 6
Enter the element (0,2) = 8
Enter the element (1,0) = 4
Enter the element (1,1) = 7
Enter the element (1,2) = 4
2 6 8
4 7 4

Enter the number of rows for matrix 2 : 3
Enter the number of columns for matrix 2 : 2

Enter the elements of Second matrix
Enter the element (0,0) = 3
Enter the element (0,1) = 6
Enter the element (1,0) = 8
Enter the element (1,1) = 5
Enter the element (2,0) = 4
Enter the element (2,1) = 4
3 6
8 5
4 4

After Multiplication result is

86 74
84 75

C:\Users\ESHOP\source\repos\CP Lab Tasks\CP Lab Tasks\bin\Debug\netcoreapp3.1\CP Lab Tasks.exe (process 18864) e
```

**Task No 02:** Take N number of user data input and make sure N is greater than 10, which contain name of the user, his/her nationality, and his/her eye color. You must show the max color of eye in each country.

## Input:

```
using System;
namespace CP_Lab_Tasks
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter number of users");
            int N = int.Parse(Console.ReadLine());
            int C = 3;
            string[,] a = new string[N, C];
            a[0, 0] = "Name";
            a[0, 1] = "Nationality";
            a[0, 2] = "Eye Color";
            int brown = 0, green = 0, black = 0, grey = 0, blue = 0;
            for (int i = 0; i < N; i++)
            {
                for (int j = 0; j < C; j++)
                {
                    if (i != 0 && j == 0)
                    {
```

```

        Console.WriteLine("Enter Name {0}", i);
        a[i, j] = Console.ReadLine();
    }
    if (i != 0 && j == 1)
    {
        Console.WriteLine("Enter Nationality {0}", i);
        a[i, j] = Console.ReadLine();
    }
    if (i != 0 && j == 2)
    {
        Console.WriteLine("Enter EyeColor {0}", i);
        a[i, j] = Console.ReadLine();
        if (a[i, j] == "Brown" || a[i, j] == "brown")
        {
            brown++;
        }
        if (a[i, j] == "Green" || a[i, j] == "green")
        {
            green++;
        }
        if (a[i, j] == "Black" || a[i, j] == "black")
        {
            black++;
        }
        if (a[i, j] == "Grey" || a[i, j] == "grey")
        {
            grey++;
        }
        if (a[i, j] == "Blue" || a[i, j] == "blue")
        {
            blue++;
        }
    }
}
}
Console.Clear();
for (int i = 0; i < N; i++)
{
    for (int j = 0; j < C; j++)
    {
        Console.Write("{0,16} ", a[i, j]);
    }
    Console.WriteLine();
}
Console.WriteLine("Total Brown eyes = {0}", brown);
Console.WriteLine("Total Green eyes = {0}", green);
Console.WriteLine("Total Black eyes = {0}", black);
Console.WriteLine("Total Grey eyes = {0}", grey);
Console.WriteLine("Total Blue eyes = {0}", blue);
}
}
}

```

**Output:**

```
Microsoft Visual Studio Debug Console

      Name      Nationality      Eye Color
Abdullah Sadiq      Pakistani      Dark Brown
      Basit Khan      Canada      Black
      Talha Saleem      Saudia Arabia      Blue
Total Brown eyes = 0
Total Green eyes = 0
Total Black eyes = 1
Total Grey eyes = 0
Total Blue eyes = 1

C:\Users\ESHOP\source\repos\CP Lab Tasks\CP Lab Tasks\bin\Debug\netcoreapp3.1\CP Lab Tasks.
th code 0.
```

**Task No 03:** Make a program in C# in which take no. of items, price of items, quantity of items and name of items as input from the user and give the discount according to the following conditions (Use 2D Array):

- a) If from rice give discount of 30%.
- b) Else if the total amount is greater than 50,000 and less than 100,000 give discount of 20%.
- c) Else if the total amount is greater than 100,000 give discount of 30%.

**Input:**

```
using System;
```

```
namespace CP_Lab_Tasks
```

```
{
```

```
    class Program
```

```
    {
```

```
        static void Main(string[] args)
```

```
        {
```

```
            int n;
```

```
            int total = 0;
```

```
            double d = 1, dtotal = 0;
```

```
            Console.WriteLine("Enter No. of items:");
```

```
            n = int.Parse(Console.ReadLine());
```

```
            string[,] item = new string[n, 3];
```

```
            for (int x = 0; x < n; x++)
```

```
            {
```

```
                Console.Write("\nEnter name of item {0} : ", x + 1);
```

```
                item[x, 0] = Console.ReadLine();
```

```
                if (item[x, 0] == "rice" || item[x, 0] == "Rice")
```

```
                {
```

```
                    d = 0.7;
```

```
                }
```

```
                Console.Write("Enter price of {0} : ", item[x, 0]);
```

```
                item[x, 1] = Console.ReadLine();
```

```
                Console.Write("Enter quantity of {0} : ", item[x, 0]);
```

```
                item[x, 2] = Console.ReadLine();
```

```
                total += (int.Parse(item[x, 1]) * int.Parse(item[x, 2]));
```

```
            }
```

```
            if (d != 0.7)
```

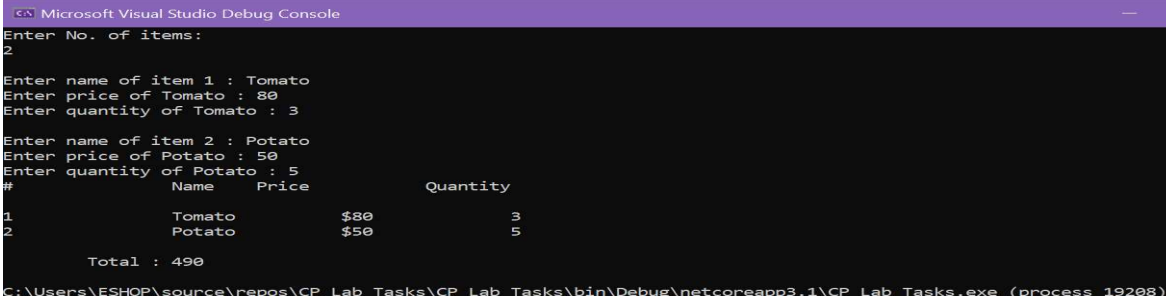
```
            {
```

```

        if (total >= 50000 & total <= 100000)
        {
            d = 0.8;
        }
        else if (total > 100000)
        {
            d = 0.7;
        }
    }
    dtotal = total * d;
    Console.WriteLine("#\t\tName\tPrice\t\tQuantity\n");
    for (int x = 0; x < n; x++)
    {
        Console.Write("{0}", x + 1);
        for (int y = 0; y < 3; y++)
        {
            if (y == 1)
            {
                Console.Write("\t\t${0}", item[x, y]);
            }
            else
            {
                Console.Write("\t\t" + item[x, y]);
            }
        }
        Console.WriteLine();
    }
    Console.WriteLine("\n\tTotal : " + total);
    if (d != 1)
    {
        Console.WriteLine("\n\tTotal after discount of {0}% is : ", (1 - d)
*100, dtotal);
    }
}
}
}

```

## Output:



Microsoft Visual Studio Debug Console

```

Enter No. of items:
2
Enter name of item 1 : Tomato
Enter price of Tomato : 80
Enter quantity of Tomato : 3
Enter name of item 2 : Potato
Enter price of Potato : 50
Enter quantity of Potato : 5
#           Name      Price           Quantity
1           Tomato     $80             3
2           Potato     $50             5

Total : 490
C:\Users\ESHOP\source\repos\CP Lab Tasks\CP Lab Tasks\bin\Debug\netcoreapp3.1\CP Lab Tasks.exe (process 19208)

```