02-131222-099

BAHRIA UNIVERSITY (KARACHI CAMPUS)

Computer Programming (CSC - 113)

Assignment 02

Fall 2022

Class: BSE 1B | **[CLO-3]** | **Shift: Morning**

Course Instructor: MUHAMMAD FAISAL | **Submission: 4 Dec 2022**

Date: 24 Nov 2022 | **Marks: 05 Points**

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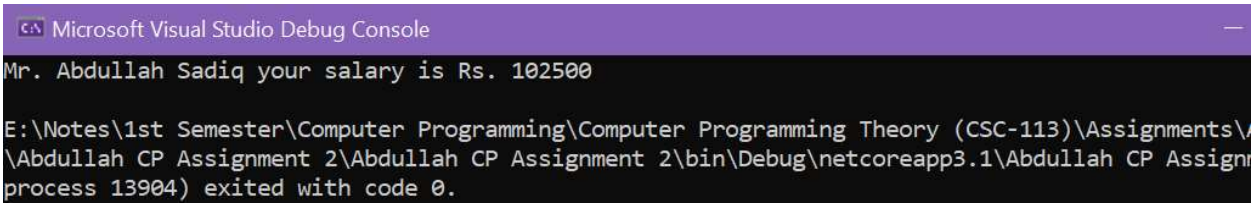
Question No 1: Write a program that will use switch statements and calculate the salary of an employee by using the information like Allowances, Provident Fund etc.

Input:

```
using System;

namespace Abdullah_CP_Assignment_2
{
    class Program
    {
        static void Main(string[] args)
        {
            string name;
            int grade, bS;
            double totalSalary;

            Console.WriteLine("Please Enter Your Name:");
            name = Console.ReadLine();
            Console.WriteLine("Please Enter Your Basic salary:");
            bS  = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Please Enter Your Grade:");
            grade = Convert.ToInt32(Console.ReadLine());
            Console.Clear();

            switch (grade)
            {
                case 17:
                    totalSalary = (bS + (0.05 * bS) + (0.025 * bS) + (0.01 * bS)) - (0.075 * bS);
                    Console.WriteLine("Mr. {0} your salary is Rs. {1}", name, totalSalary);
                    break;
                case 18:
                    totalSalary = (bS + (0.055 * bS) + (0.03 * bS) + (0.015 * bS)) - (0.075 * bS);
                    Console.WriteLine("Mr. {0} your salary is Rs. {1}", name, totalSalary);
                    break;
                case 19:
                    totalSalary = (bS + (0.06 * bS) + (0.033 * bS) + (0.015 * bS)) - (0.075 * bS);
                    Console.WriteLine("Mr. {0} your salary is Rs. {1}", name, totalSalary);
                    break;
                default:
                    Console.WriteLine("Invalid Rank!");
                    break;
            }
        }
    }
}
```

Output:



Question No 2: Multiply Array1 with Array2 and stores its result in Array3. Apply matrix rules for multiplication [Row N * Col N]. [Using loop]

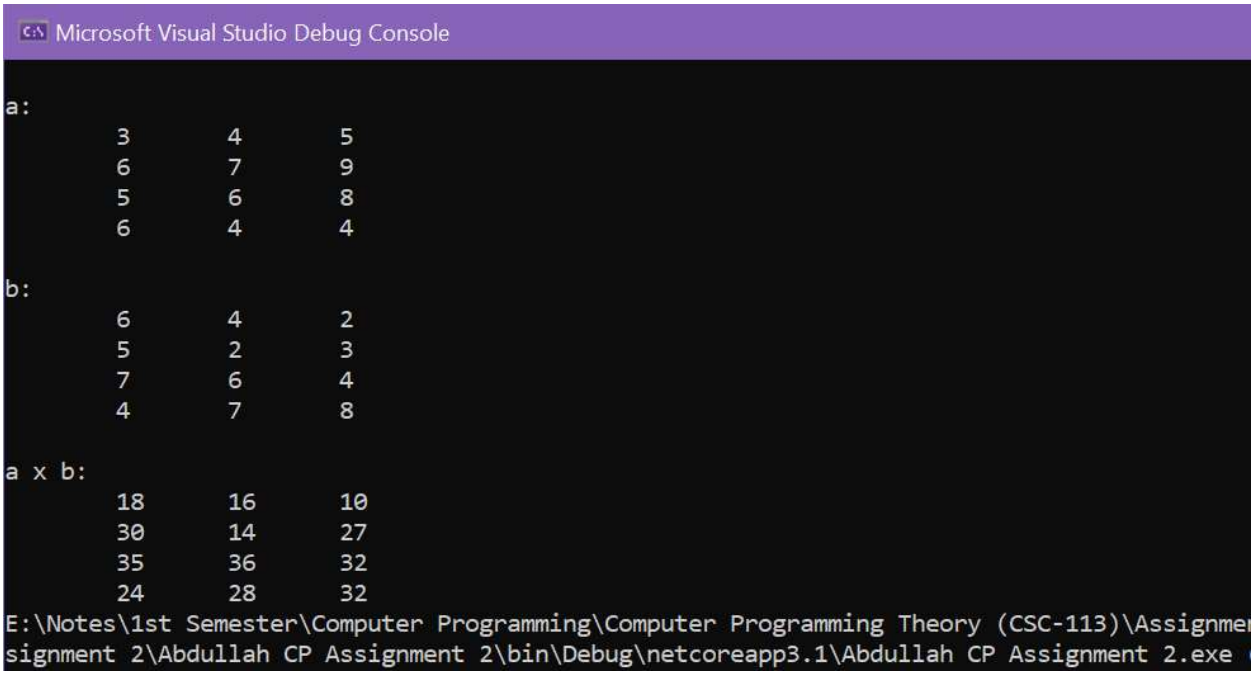
Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_2
{
    class Program
    {
        static void Main(string[] args)
        {
            int[,] prod = new int[4, 3];
            int[,] a =
            {
                {3,4,5},
                {6,7,9},
                {5,6,8},
                {6,4,4}
            };
            int[,] b =
           {
                {6,4,2},
                {5,2,3},
                {7,6,4},
                {4,7,8}
            };
            Console.Write("\na:");
            for (int i = 0; i <= 3; i++)
            {
                Console.WriteLine("");
                for (int c = 0; c <= 2; c++)
                {
                    Console.Write("\t{0}", a[i, c]);
                }
            }
            Console.WriteLine("");
            Console.Write("\nb:");
            for (int i = 0; i <= 3; i++)
            {
                Console.WriteLine("");
                for (int c = 0; c <= 2; c++)
                {
                    Console.Write("\t{0}", b[i, c]);
                }
            }
            Console.WriteLine("");
            Console.Write("\na x b:");
```

```
            for (int i = 0; i <= 3; i++)
            {
                Console.WriteLine("");
                for (int c = 0; c <= 2; c++)
                {
                    prod[i, c] = a[i, c] * b[i, c];
                    Console.Write("\t{0}", prod[i, c]);
                }
            }
        }
    }
}
```

Output:



Question No 3: Write a program that will generate the monthly installment and total amount to be paid of personal loan where the insurance is 2% and mark up is 18% per year, initial processing fee is 3%.

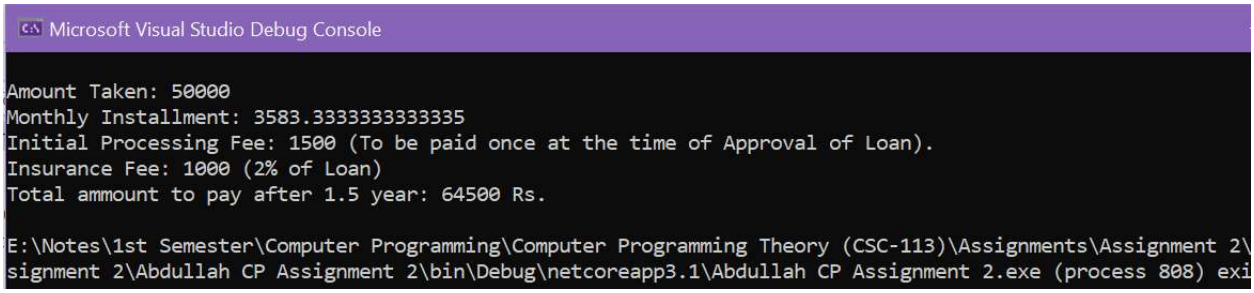
Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_2
{
    class Program
    {
        static void Main(string[] args)
        {
            double loan, year;

            Console.WriteLine("Please enter the Amount you want for Loan:");
            loan = Convert.ToDouble(Console.ReadLine());
            Console.WriteLine("For how many years you want the Amount:");
```

```
            year = Convert.ToDouble(Console.ReadLine());
            Console.Clear();

            double ipFee = loan * 0.03;
            double insurance = loan * 0.02;
            double markUp = (loan * 0.18) * year;
            double payableAmount = loan + insurance + markUp;
            double months = year * 12;
            double monthlyInstallment = payableAmount / months;

            Console.WriteLine("\nAmount Taken: {0} \nMonthly Installment: {1}\nInitial
Processing Fee: {2} (To be paid once at the time of Approval of Loan).\nInsurance Fee: {3} (2%
of Loan)\nTotal ammount to pay after {4} year: {5} Rs.", loan, monthlyInstallment, ipFee,
insurance, year, payableAmount);
        }
    }
}
```

Output:



Question No 4: Write an Algorithm to generate total bill of an automobile shop, where the bill is divided into mechanical charges, vehicle parts charges, Auto wash charges and other charges for a customer if the total bill of mechanical charges and vehicle parts charges is over Rs. 10,000/- then the customer will get complementary car wash and car wash charges will be removed from the bill.

Solution:

Step 1: Start
Step 2: Take input from users about services (Vehicle part change, Mechanical work, Auto Wash etc.)
Step 3: Calculate the total charges regarding the services provided to users.
Step 4: Check that if the bill is Larger than 10,000 Rs. If yes, give that customer a Complementary car wash and remove the car wash charges.
Step 5: Print the Total Billing Amount.
Step 6: Stop

Question No 5: Write a program that will generate the output (Given in Question).

Solution:
Input:

```
using System;
```

```
namespace Abdullah_CP_Assignment_2
{
    class Program
    {
        static void Main(string[] args)
        {
            for (int i = 1; i <= 3; i++)
            {
                Console.WriteLine("\nChapter {0}\n",i);
                for (int j =1;j<=5;j++)
                {
                    Console.WriteLine("\tSection {0}.{1}",i,j);
                }
            }
        }
    }
}
```

Output: