BAHRIA UNIVERSITY (KARACHI CAMPUS)

Computer Programming (CSC - 113)

Assignment 01

Fall 2022

[CLO-3]

Class: BSE 1B
Course Instructor: MUHAMMAD FAISAL
Date: 24 Nov 2022
Student Name: ABDULLAH

Shift: Morning
Submission: 06 Oct 2022
Marks: 05 Points
Registration #: 02131222099

Question No 01: Write a C# program to find that a person is allow to sit in BSE-1. He is allow if he belongs to BUKC and he is the student of First semester and he is a student of Software Engineering.

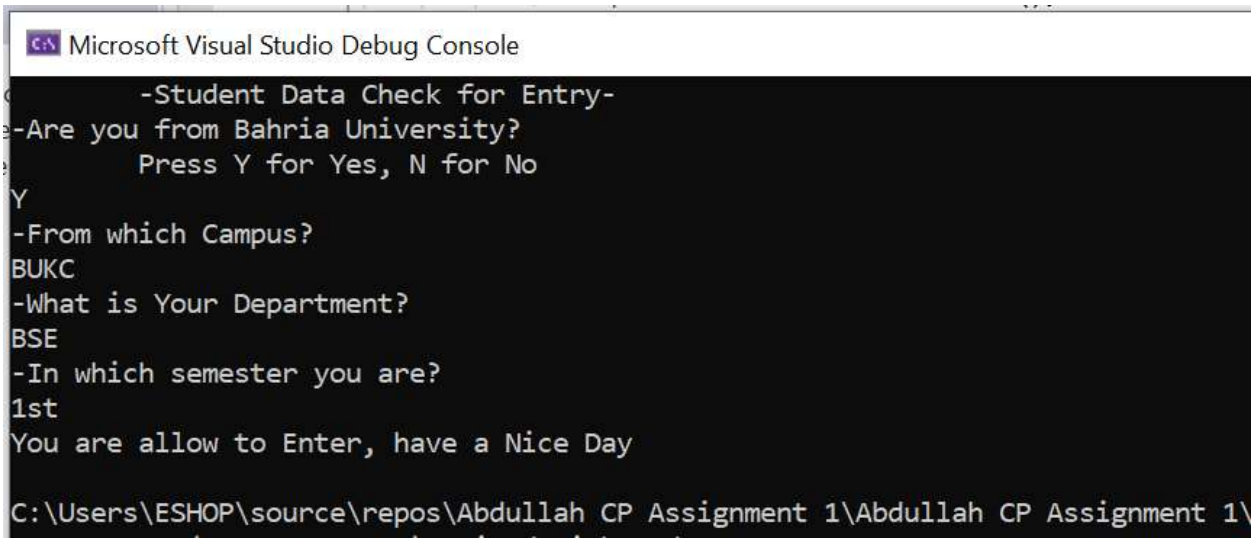
Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            string department = "BSE";
            string departmentIn;
            string semester = "1st";
            string semesterIn;
            string campus = "BUKC";
            string campusIn;

            Console.WriteLine("\t-Student Data Check for Entry-");
            Console.WriteLine("-Are you from Bahria University?");
            Console.WriteLine("\tPress Y for Yes, N for No");
            string opt = Console.ReadLine();
            if (opt == "Y")
            {
                Console.WriteLine("-From which Campus?");
                campusIn = Console.ReadLine();
                Console.WriteLine("-What is Your Department?");
                departmentIn = Console.ReadLine();
                Console.WriteLine("-In which semester you are?");
                semesterIn = Console.ReadLine();

                if (campus == campusIn && department == departmentIn && semester ==
semesterIn)
                {
                    Console.WriteLine("You are allow to Enter, have a Nice Day");
                }
                else
                {
```

```
                    Console.WriteLine("Sorry you are not allow to Enter BUKC");
                }
            }
              else
            {
                Console.WriteLine("Sorry You are not allow to enter Bahria University");
            }
        }
    }
}
```

Output:



Question No 02: Write a C# program to print number of days in given month using switch-case.

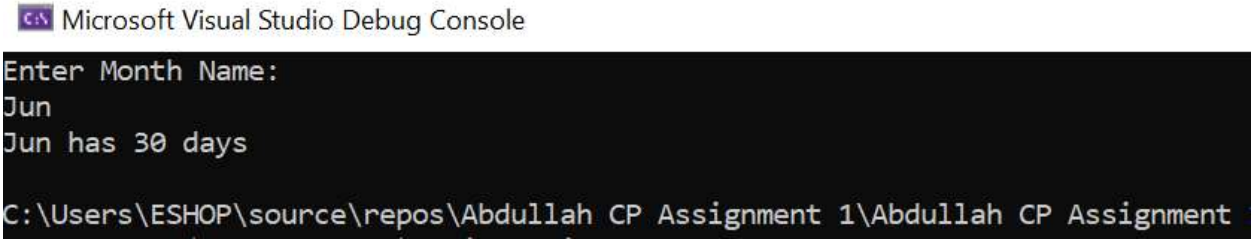
Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            string monthName;
            Console.WriteLine("Enter Month Name:");
            monthName = Console.ReadLine();
            switch (monthName)
            {
                case "Jan":
                    Console.WriteLine("{0} has 31 days", monthName);
                    break;
                case "Feb":
                    Console.WriteLine("{0} has 28 (for leap year 29) days", monthName);
```

```
                    break;
                case "Mar":
                    Console.WriteLine("{0} has 31 days", monthName);
                    break;
                case "Apr":
                    Console.WriteLine("{0} has 30 days", monthName);
                    break;
                case "May":
                    Console.WriteLine("{0} has 31 days", monthName);
                    break;
                case "Jun":
                    Console.WriteLine("{0} has 30 days", monthName);
                    break;
                case "Jul":
                    Console.WriteLine("{0} has 31 days", monthName);
                    break;
                case "Aug":
                    Console.WriteLine("{0} has 31 days", monthName);
                    break;
                case "Sep":
                    Console.WriteLine("{0} has 30 days", monthName);
                    break;
                case "Oct":
                    Console.WriteLine("{0} has 31 days", monthName);
                    break;
                case "Nov":
                    Console.WriteLine("{0} has 30 days", monthName);
                    break;
                case "Dec":
                    Console.WriteLine("{0} has 31 days", monthName);
                    break;
            }
        }
    }
}
```

Output:



Question No 03: Write a C# program that takes integer between 1 and 12 from user and displays the name of the month using switch-case.

Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
```

```
{
    class Program
    {
        static void Main(string[] args)
        {
            int num;
            Console.WriteLine("Enter Month Number (Between 1-12):");
            num =Convert.ToInt32(Console.ReadLine());
            switch (num)
            {
                case 1:
                    Console.WriteLine("{0}st Month is January",num);
                    break;
                case 2:
                    Console.WriteLine("{0}nd Month is February", num);
                    break;
                case 3:
                    Console.WriteLine("{0}rd Month is March", num);
                    break;
                case 4:
                    Console.WriteLine("{0}th Month is April", num);
                    break;
                case 5:
                    Console.WriteLine("{0}th Month is May", num);
                    break;
                case 6:
                    Console.WriteLine("{0}th Month is June", num);
                    break;
                case 7:
                    Console.WriteLine("{0}th Month is July", num);
                    break;
                case 8:
                    Console.WriteLine("{0}th Month is August", num);
                    break;
                case 9:
                    Console.WriteLine("{0}th Month is September", num);
                    break;
                case 10:
                    Console.WriteLine("{0}th Month is October", num);
                    break;
                case 11:
                    Console.WriteLine("{0}th Month is November", num);
                    break;
                case 12:
                    Console.WriteLine("{0}th Month is December", num);
                    break;
                default:
                    Console.WriteLine("{0} is out of the Range!", num);
                    break;
            }
        }
    }
}
```

Output:

Microsoft Visual Studio Debug Console

```
Enter Month Number (Between 1-12):
8
8th Month is August

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```

Question No 04: Write a C# program to check if the given year is a leap year or not. (A year may be a leap year if it is evenly divisible by 4 .Years that are divisible by 100 (century years such as 1900 or 2000) cannot be leap years unless they are also divisible by 400)).

Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            int year;
            Console.WriteLine("Enter The Year:");
            year = Convert.ToInt32(Console.ReadLine());
            if (year % 4 == 0 || year % 400 == 0)
            {
                Console.WriteLine("{0} is a Leap Year.", year);
            }
            else
            {
                Console.WriteLine("{0} is Not a Leap Year", year);
            }
        }
    }
}
```

Output:

Microsoft Visual Studio Debug Console

```
Enter The Year:
2020
2020 is a Leap Year.

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```

Question No 05: Write a C# program to check if given triangle is right angle triangle, acute angle triangle or obtuse angle triangle.

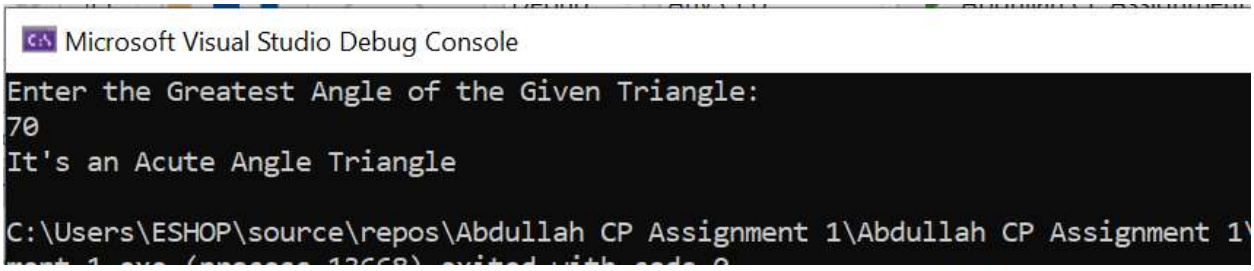
Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            double angle;
            Console.WriteLine("Enter the Greatest Angle of the Given Triangle:");
            angle = Convert.ToDouble(Console.ReadLine());
            if (angle == 90)
            {
                Console.WriteLine("It's a Right Angle Triangle");
            }
            else if (angle >= 90)
            {
                Console.WriteLine("It's an Abtuse Angle Triangle");
            }
            else if (angle == 60)
            {
                Console.WriteLine("It's an Equilateral Triangle");
            }
            else if (angle <= 60)
            {
                Console.WriteLine("Invalid Input! {0} is not the Greatest Angle of
Triangle", angle);
            }
            else if (angle <= 90)
            {
                Console.WriteLine("It's an Acute Angle Triangle");
            }
        }
    }
}
```

Output:



Question No 06: Write a C# program to print an appropriate message for Go, Stop and Wait on the bases of traffic lights by taking color of light as input.

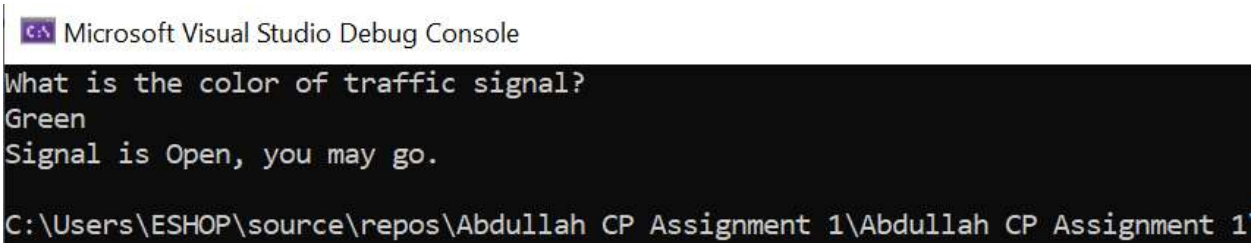
Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            string lightColor;
            Console.WriteLine("What is the color of traffic signal?");
            lightColor = Console.ReadLine();
            switch (lightColor)
            {
                case "Red":
                    Console.WriteLine("Please Stop Your Vehicle!");
                    break;
                case "Yellow":
                    Console.WriteLine("Please Wait until Signal turns Green.");
                    break;
                case "Green":
                    Console.WriteLine("Signal is Open, you may go.");
                    break;
                default:
                    Console.WriteLine("Invalid Color!");
                    break;
            }
        }
    }
}
```

Output:



Question No 07: Write a C# program to calculate discount for a departmental store. The departmental store has two types of customers: 1) Walk-in customers 2) Registered customers. For registered customers, they are offering 5% discount if their monthly transaction is more than Rs.100000 and 5.5% discount if their monthly transaction is more than Rs.200000, otherwise they will get a discount of 3.5%. For Walk-in customers a 2% discount is available if the transaction amount is more than 50,000.

Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
```

```
{
    class Program
    {
        static void Main(string[] args)
        {
            double totalBill;
            double monthlyTransaction;
            double discount;
            double finalBill;
            string customerType;

            Console.WriteLine("\t-Cashier Counter-");
            Console.WriteLine("\nPlease Enter Your Total Bill (in Rs):");
            totalBill = Convert.ToDouble(Console.ReadLine());
            Console.WriteLine("Are You Registered Customer or Walk in Customer of our
Store? (R for Registered / W for Walk in):");
            customerType = Console.ReadLine();
            if (customerType.Equals("R") || customerType.Equals("r"))
            {
                Console.WriteLine("Enter Your Monthly Transacted Amount in Our Store:");
                monthlyTransaction = Convert.ToDouble(Console.ReadLine());
                if (monthlyTransaction >= 200000)
                {
                    discount = 0.055 * totalBill;
                    finalBill = totalBill - discount;
                    Console.WriteLine("Your Final Bill is {0} Rs with Discount of {1} Rs
(5.5%) as You Are Our Registered Customer and Have Monthly Transaction of {2} (More Then
200000 Rs)", finalBill, discount, monthlyTransaction);
                }
                else if (monthlyTransaction >= 100000)
                {
                    discount = 0.05 * totalBill;
                    finalBill = totalBill - discount;
                    Console.WriteLine("Your Final Bill is {0} Rs with Discount of {1} Rs
(5%) as You Are Our Registered Customer and Have Monthly Transaction of {2} (More Then
100000 Rs)", finalBill, discount, monthlyTransaction);
                }
                else
                {
                    discount = 0.033 * totalBill;
                    finalBill = totalBill - discount;
                    Console.WriteLine("Your Final Bill is {0} Rs with Discount of {1} Rs
(3.5%) as You Are Our Registered Customer", finalBill, discount);
                }
            }
            else if (customerType.Equals("W") || customerType.Equals("w"))
            {
                Console.WriteLine("Enter Your Monthly Transacted Amount in Our Store:");
                monthlyTransaction = Convert.ToDouble(Console.ReadLine());
                if (monthlyTransaction >= 50000)
                {
                    discount = 0.02 * totalBill;
                    finalBill = totalBill - discount;
                    Console.WriteLine("Your Final Bill is {0} Rs with Discount of {1} Rs
(2%) as You are Walk in Customer and Have Monthly Transaction of {2} (More Then 50000
Rs)", finalBill, discount, monthlyTransaction);
                }
                else
```

```
                {
                    discount = 0 * totalBill;
                    finalBill = totalBill - discount;
                    Console.WriteLine("Your Final Bill is {0} Rs with Discount of {1}
Rs", finalBill, discount);
                }
            }
            Console.WriteLine("\n-Have a Nice Day-");
        }
    }
}
```

Output:

Question No 08: Write a C# program to calculate the total fee of a student of Bahria University (@ Rs.5000 per credit hour). There is a 50% discount for students from a naval background, a 20% discount for students with a sibling already studying in Bahria University and a 30% discount for Bahria University permanent employees.

Solution:

Input:

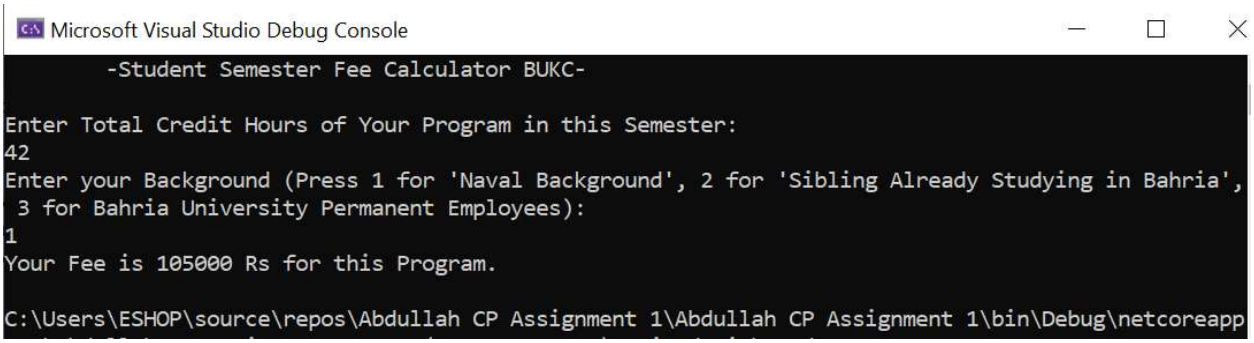
```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            double creditHours, totalFee, discount, FinalFee;
            int ratePerhour = 5000;
            string studentBackground;
            Console.WriteLine("\t-Student Semester Fee Calculator BUKC-");
            Console.WriteLine("\nEnter Total Credit Hours of Your Program in this
Semester:");
            creditHours = Convert.ToDouble(Console.ReadLine());
            Console.WriteLine("Enter your Background (Press 1 for 'Naval Background', 2
for 'Sibling Already Studying in Bahria', 3 for Bahria University Permanent
Employees):");
            studentBackground = Console.ReadLine();
            totalFee = ratePerhour * creditHours;

            if (studentBackground.Equals ("1"))
```

```
            {
                discount = totalFee * 0.5;
            }
            else if (studentBackground.Equals ("2"))
            {
                discount = totalFee * 0.2;
            }
            else if (studentBackground.Equals ("3"))
            {
                discount = totalFee * 0.3;
            }
            else
            {
                discount = totalFee * 0;
            }
            FinalFee = totalFee - discount;
            Console.WriteLine("Your Fee is {0} Rs for this Program.", FinalFee);
        }
    }
}
```

Output:



Question No 09: Write a C# program for user account login for userid = "admin" and password = "123456" (check userid and password).

Solution:

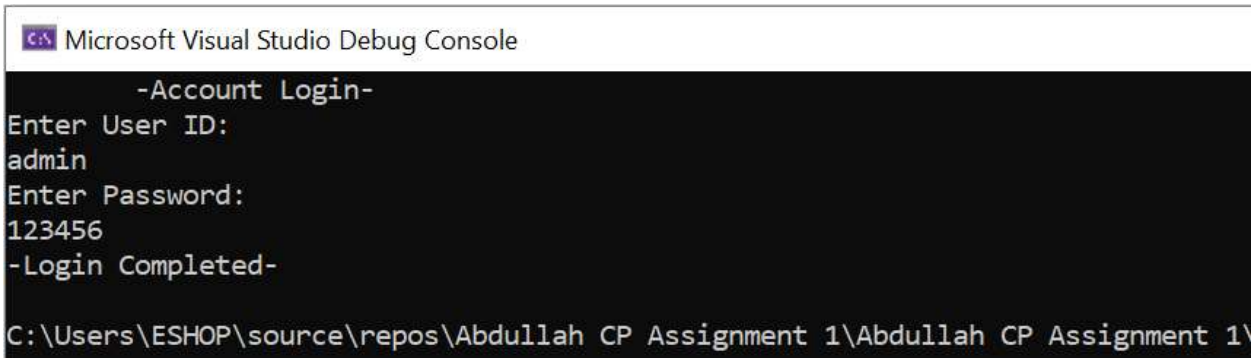
Input:

```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            string userid = "admin";
            string useridin;
            string password = "123456";
            string passwordin;
            Console.WriteLine("\t-Account Login-");
            Console.WriteLine("Enter User ID:");
            useridin = Console.ReadLine();
```

```
            if (useridin == userid)
            {
                Console.WriteLine("Enter Password:");
                passwordin = Console.ReadLine();
                if (password == passwordin)
                {
                    Console.WriteLine("-Login Completed-");
                }
                else
                {
                    Console.WriteLine("Invalid Password!");
                }
            }
            else
            {
                Console.WriteLine("Invalid User ID!");
            }
        }
    }
}
```

Output:



Question No 10: Write a C# program to check if given alphabet is a vowel or not.

Solution:

Input:

```
using System;

namespace Abdullah_CP_Assignment_1
{
    class Program
    {
        static void Main(string[] args)
        {
            string v;
            Console.WriteLine("Enter an Alphabet:");
            v = Console.ReadLine();
            if (v == "a" || v == "e" || v == "i" || v == "o" || v == "u")
            {
                Console.WriteLine("{0} is a Vowel.", v);
            }
```

```
            else
            {
                Console.WriteLine("{0} is not a Vowel.", v);
            }
        }
    }
}
```

Output: