



**6. Write a program to ask the user about the validity of a simple statement. The program should accept the response then display the statement as well as the response. The response should be true or false. For this question, you must use a variable of type bool. It is useful to know that Convert.ToBoolean() can work with true, True, tRue, TRUE etc.**

StatementCheck.cs:

using System;

namespace week4

{

public class StatementCheck

{

public bool Ques6()

{

//This program uses bool datatype to check wheater the statement given is true or false

Console.Write("The statement earth revolves around the sun is True or False? ");

//This line takes string value as user input and assign to variable check of data type bool

bool check = Convert.ToBoolean(Console.ReadLine());

//This line returns the bool value assigned in check

return check;

}

}

{

Program.cs:

using System;

namespace week4

{

public class Program

{

public static void Main(string[] args)

{

StatementCheck obj = new(); //creating an object from class as obj

bool truth = obj.Ques6(); //creating a variable named truth from the instance

if(truth == true) //comparision method using if and else statement

{

Console.WriteLine("Hurray, You got it right");

}

else

{

Console.WriteLine("Opps, you said false, the statement is fact, if you can change my mind");

}

}

}

}

**7. Write a program to calculate the area of a circle. The user will enter the radius of the circle and the program will calculate and display the area according to the formula (area = 3.14 \* radius \* radius). You must accept fractions as the input. If the user enters 1.2 for the radius then the area will be 4.52. (Use the "F" format-specifier for floating point values).**

StatementCheck.cs:

using System;

namespace week4

{

public class StatementCheck

{

public double Ques7()

{

//This program calculates the radius of circle

Console.Write("Enter the radius of the circle: ");

//This line takes string value as user input and assign to variable radius of data type double

double radius = Convert.ToDouble(Console.ReadLine());

//This line return the double value in radius value

return radius;

}

}

}

Program.cs:

using System;

namespace week4

{

public class Program

{

public static void Main(string[] args)

{

StatementCheck obj = new(); //creating an object from class as obj

double radius = obj.Ques7(); //creating a variable named radius from the instance

double area = 3.14 \* radius \* radius; //arithmetic operation

Console.WriteLine($"The Area of circle with radius {radius} is {area:F}");

}

}

}

**8. Write a program that prompts the user for a number (that may be a fraction). The program reads in the input and prints the following: the input as a double, the input as an int and finally the input as a char. e.g. if the input is 65.790, then the output will be 65.790, 65, and A.**

StatementCheck.cs:

using System;

namespace week4

{

public class StatementCheck

{

public void Ques8()

{

Console.Write("Enter the number in double: ");

this.numDouble = Convert.ToDouble(Console.ReadLine()); //takes user input and assign in variable numDouble

Console.Write("Enter the number in integer: ");

this.numInt = Convert.ToInt32(Console.ReadLine()); //takes user input and assign in variable numInt

Console.Write("Enter any character: ");

this.valChar = Convert.ToChar(Console.ReadLine()!); //takes user input and assign in variable valChar

}

}

}

Program.cs:

using System;

namespace week4

{

public class Program

{

public static void Main(string[] args)

{

StatementCheck obj = new(); //creating an object from class as obj

obj.Ques8(); //calling the function named Ques8

Console.WriteLine("The double value is {0}", obj.numDouble);

Console.WriteLine("The integer value is {0}", obj.numInt);

Console.WriteLine("The character is {0}", obj.valChar)

}

}

}

**9. Adult ticket cost $3.75 and child ticket cost $2.25. Write a program to prompt the user for the amount of adult and child ticket that she needs. The program will display a user-friendly message of the number of tickets brought as well as the total cost. (Use the "C" format-string for currency).**

StatementCheck.cs:

using System;

namespace week4

{

public class StatementCheck

{

public int numAdult; //assigning variable of int data type

public int numChild; //assigning variable of int data type

public double priceAdult = 3.75; //assigning variable of double data type

public double priceChild = 2.25; //assigning variable of double data type

public double totalAdult; //assigning variable of double data type

public double totalChild; //assigning variable of double data type

public double grandTotal; //assigning variable of double data type

public void Ques9()

{

//prints the below statement

Console.WriteLine("Hi, this program so your total amount of tickets you purchased with the price");

Console.WriteLine("The ticket price of Adult is $3.75/adult");

Console.WriteLine("The ticket price of Child is $2.25/child");

Console.WriteLine("");

Console.Write("Enter the number of number of adults you have: ");

this.numAdult = Convert.ToInt32(Console.ReadLine()); //takes user input and assign in variable numAdult

Console.Write("Enter the number of children you have: "); //takes user input and assign in variable numChild

this.numChild = Convert.ToInt32(Console.ReadLine());

Console.Write(""); //printing an empty line

this.totalAdult = this.priceAdult \* this.numAdult; //arithmetic operation on different variables

this.totalChild = this.priceChild \* this.numChild;

this.grandTotal = this.totalAdult + this.totalChild;

//printing the below line

Console.WriteLine("The total cost of the tickets are detailed below");

}

}

}

Program.cs:

using System;

namespace week4

{

public class Program

{

public static void Main(string[] args)

{

StatementCheck obj = new(); //creating an object from class as obj

obj.Ques9(); //calling the function named Ques9

double pd = obj.Ques10(); //assigning a variable named pd from the instance

Console.WriteLine("The potential difference is {0}", pd);

}

}

}

**10. Write a program to calculate and display the potential difference between the ends of a wire. The program will prompt the user for the current flowing and the resistance of the wire. Potential difference is the product of the current and the resistance of the wire and may include a fractional part. (Again, use the "F" format-specifier for floating point values).**

StatementCheck.cs:

using System;

namespace week4

{

public class StatementCheck

{

public double Ques10()

{

Console.Write("Enter the Current Flowing: ");

double current = Convert.ToDouble(Console.ReadLine()); //takes user input and assign in variable current

Console.Write("Enter the resistance of wire: ");

double resistance = Convert.ToDouble(Console.ReadLine()); //takes user input and assign in variable resistance

//using arithmetic operation

double potentialDiff = current \* resistance;

return potentialDiff; //returning the value of potential difference

}

}

}

Program.cs:

using System;

namespace week4

{

public class Program

{

public static void Main(string[] args)

{

StatementCheck obj = new(); //creating an object from class as obj

double pd = obj.Ques10(); //assigning a variable named pd from the instance

Console.WriteLine("The potential difference is {0}", pd);

}

}

}