Operators Lab

Lab 1: Math Operators

Addition

Use the plus (+) sign to add two numbers together. Open the **Program.cs** file and replace the entire contents with the following code.

```
decimal price = 1.99M;

price = price + 10;

Console.WriteLine(price);
```

Try It Out

Run the application and view the output.

Compound Assignment

To add a number to itself, you can use a compound assignment as shown in the following code. Change the code above to use this line.

```
price += 10;
```

Try It Out

Run the application and view the same output.

Subtraction

Use the minus (-) sign to subtract one number from another. Open the **Program.cs** file and replace the entire contents with the following code.

```
decimal price = 10.99M;

price = price - 10;

Console.WriteLine(price);
```

Try It Out

Run the application and view the output.

Multiplication

Use the asterisk (*) sign to multiply one number by another. Open the **Program.cs** file and replace the entire contents with the following code.

```
decimal price = 1.99M;

price = price * 2;

Console.WriteLine(price);
```

Try It Out

Run the application and view the output.

Division

Use the forward slash (/) to divide one number by another. Open the **Program.cs** file and replace the entire contents with the following code.

```
decimal price = 10.99M;

price = price / 2;

Console.WriteLine(price);
```

Try It Out

Run the application and view the output.

Exponentiation

Use the built-in Math class of the .NET framework to raise a number to a power. Only works with the 'double' data type. Open the **Program.cs** file and replace the entire contents with the following code.

```
double cost = 5.99D;

cost = Math.Pow(cost, 3);

Console.WriteLine(price);
```

Try It Out

Run the application and view the output.

Integer Division

When dividing two numbers by one another and the operands are of the integer data type, the result is always an integer. This is called integer division. Open the **Program.cs** file and replace the entire contents with the following code.

```
int qty = 10;

qty = qty / 3;

Console.WriteLine(qty);
```

Try It Out

Run the application and view the output.

Integer Remainder

If you wish to get the remainder portion of the result of dividing two integer values by each other, use the percent (%) sign. Open the **Program.cs** file and replace the entire contents with the following code.

```
int qty = 10;

qty = qty % 3;

Console.WriteLine(qty);
```

Try It Out

Run the application and view the output. **Change** the “3” to a “2” to see the new result.

Lab 2: Unary Operators

Open the **Program.cs** file and replace the entire contents with the following code.

```
int index = 0;


Console.Write("Post Increment: ");
Console.WriteLine(index++);
Console.WriteLine(index);

Console.Write("Pre Increment: ");
Console.WriteLine(++index);
Console.WriteLine(index);

Console.Write("Post Decrement: ");
Console.WriteLine(index--);
Console.WriteLine(index);

Console.Write("Pre Decrement: ");
Console.WriteLine(--index);
Console.WriteLine(index);
```

Try It Out

Run the application and view the output.

Lab 3: Relational Operators

Open the **Program.cs** file and replace the entire contents with the following code.

```
decimal cost = 4.99M;
decimal price = 5.99M;

Console.Write("Less Than: ");
Console.WriteLine(cost < price);

Console.Write("Greater Than: ");
Console.WriteLine(cost > price);

Console.Write("Less Than or Equal To: ");
Console.WriteLine(cost <= price);

Console.Write("Greater Than or Equal To: ");
Console.WriteLine(cost >= price);

Console.Write("Equal To: ");
Console.WriteLine(cost == price);

Console.Write("Not Equal To: ");
Console.WriteLine(cost != price);
```

Try It Out

Run the application and view the output.

Lab 4: Logical Operators

Open the **Program.cs** file and replace the entire contents with the following code.

```
bool isActive = true;

Console.Write("Not Operator: ");
Console.WriteLine(!isActive);



decimal cost = 0.00M;
decimal price = 5.99M;

Console.Write("Logical And: ");
Console.WriteLine(cost == 0 && price == 0);

Console.Write("Logical Or: ");
Console.WriteLine(cost == 0 || price == 0);
```

Try It Out

Run the application and view the output.