

# Lab Report: EECE2140 COMPUTING FUNDAMENTALS FOR ENGINEERS

Student Name: Theo Donacik

Northeastern University

College of Engineering

Department of Electrical and Computer Engineering

Course Title: EECE 2140: COMPUTING FUNDAMENTALS FOR ENGINEERS

Instructor: Fatema Nafa

February 29, 2024

# Student Information

Assignment: 5

Student Name: *Theo Donacik*

Date: *February 29, 2024*

## 1 Class Creation

First, I created the BasicMathOperations class. This class has no fields or constructor as it does not need to store any data specific to this instance of the class.

## 2 Methods/Tasks

### Function: Greet

This function takes two numbers as input and returns their sum.

```
Function greet
    Input: firstname, lastname
    Output: Print a greeting

    Begin
        print("Hello ", firstname, lastname, "!")
    End
```

### Using the greet Function

```
# Example of calling the function
math = basicMathOperations()
math.greet("Theo", "Donacik")

# Output
Hello Theo Donacik!
```

## Function: Add Numbers

This function takes 2 numbers returns their sum.

```
Function add_numbers
    Input: number1, number2
    Output: sum of number1 and number2

    Begin
        sum = number1 + number2
        return sum
    End
```

## Using the add\_numbers Function

```
# Example of calling the function
math = basicMathOperations()
result = math.add_numbers(5, 7)
print("The sum is:", result)

# Output
The sum is: 12
```

## Function: Operation

This function takes 2 numbers and an operation and applies the operation.

```
Function operation
    Input: number1, number2, operator
    Output: Result of operation on number1 and number2

    Begin
        switch(operator):
            case "+": return number1 + number2
            case "-": return number1 - number2
            case "*": return number1 * number2
            case "/": return number1 / number2
            else: throw error "Invalid operator"
    End
```

## Using the operation Function

```
# Example of calling the function
math = basicMathOperations()
result = math.operation(5, 7, "+")
print("The result is:", result)

# Output
The result is: 12
```

## Function: Calculate Square

This function takes a number and returns its square.

```
Function calculateSquare
    Input: num
    Output: The square of num

    Begin
        return num ^ 2
    End
```

## Using the operation calculateSquare

```
# Example of calling the function
math = basicMathOperations()
result = math.calculateSquare(5)
print("The result is:", result)

# Output
The result is: 25
```

### 3 Main function