

# CSCI-101 Programming I

## Lab 1

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### Setup Your Repository

Log into [cs.bridgewater.edu](https://cs.bridgewater.edu)

Use the **cd** command to change your working directory to the **github** directory.

```
$ cd github
```

Now use the **cd** command to change your working directory to the repository that you cloned from Github.com. In the command below replace **USERNAME** with your BC username.

```
$ cd USERNAME
```

Use the **pwd** command to verify that your working directory is correct.

```
$ pwd
```

Your working directory should be similar to the path shown below, but where **USERNAME** is your BC username.

```
/home/USERNAME/github/USERNAME
```

Use the **mkdir** command to make a directory named **csci101**.

```
$ mkdir csci101
```

Use the **cd** command to change your working directory to your new **csci101** directory.

```
$ cd csci101
```

Use the **mkdir** command to make a directory named **lab1**.

```
$ mkdir lab1
```

Use the **cd** command to change your working directory to your new **lab1** directory.

```
$ cd lab1
```

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## Let's Write Some Code

User **vi** to create a file named **Lab1.java**.

```
$ vi Lab1.java
```

Inside **Lab1.java** create a class named **Lab1** and include inside the class a **main** method using the code below.

```
class Lab1 {  
    public static void main(String[] args) {  
  
    }  
}
```

Add code *inside* the **main** method that performs the following:

Let's model a football field (in feet).

- Declare a variable named **width** that can hold an integer and initialize it to the value **160**.
- Declare a variable named **length** that can hold an integer and initialize it to the value **360**.

*The circumference of a rectangle is equal to 2 times the width of the rectangle plus 2 times the length of the rectangle.*

Declare an integer variable named **circumference** and set it equal to the circumference of the rectangle modeled with the variables **width** and **length** defined above.

Print to the screen "**Circumference:** " followed by the value in the variable named **circumference**.

*The area of a rectangle is equal to the width of the rectangle times the length of the rectangle.*

Declare an integer variable named **area** and set it equal to the area of the rectangle modeled with the variables **width** and **length** defined above.

Print to the screen "**Area:** " followed by the value in the variable named **area**.

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## Test Your Code

In vi, enter command mode by pressing **ESC** (escape) key. Now save the file and quit vi by typing **:wq** and pressing enter.

Now compile your program using the following command.

```
$ javac Lab1.java
```

If you get compile errors start with the first error and try to resolve them by re-editing Lab1.java using vi.

Once your program compiles without error, run your program using the following command.

```
$ java Lab1
```

Look at the output and verify (using a calculator) that your program is printing the correct values.

If your program has errors re-editing Lab1.java (using vi) - then recompile - and re-run.

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## Push Your Code to GitHub.com

Once you are satisfied that your program works property, use the following command to add **Lab1.java** to the *staging area* of your repository.

```
$ git add Lab1.java
```

Now commit your change to your local repository on [cs.bridgewater.edu](https://cs.bridgewater.edu) using the following command.

```
$ git commit -m 'Added lab1'
```

Last command; push your code to GitHub using the following command.

```
$ git push
```

Use a browser and verify your code is on GitHub.com.

That's it - nice job!