Lab 1

Ice cream and one thing to get done before January

Brilliant Nguyen loves chocolate ice cream. He wants to succeed this semester before the start of the winter term

Colin McGarw loves vanilla ice cream. He wants to go rock climbing outdoors before January

Java and C

Java Source code

```java
public class HelloWorld{
    public static void main(String[] args) {
        System.out.println("Hello World");
    }
}
```

Java Directory Listing

```
mmoustaf@gc112m38:Java
[mmoustaf@gc112m38 ~]$ cd cs2263
[mmoustaf@gc112m38 ~/cs2263]$ cd Labs
[mmoustaf@gc112m38 Labs]$ cd Lab1
[mmoustaf@gc112m38 Lab1]$ cd Java
[mmoustaf@gc112m38 Java]$ ls
HelloWorld.class  HelloWorld.java
[mmoustaf@gc112m38 Java]$
```

Java Output

```
[mmoustaf@gc112m38 ~]$ cd cs2263
[mmoustaf@gc112m38 ~/cs2263]$ cd Labs
[mmoustaf@gc112m38 Labs]$ cd Lab1
[mmoustaf@gc112m38 Lab1]$ cd Java
[mmoustaf@gc112m38 Java]$ javac HelloWorld.java
[mmoustaf@gc112m38 Java]$ java HelloWorld
Hello World
[mmoustaf@gc112m38 Java]$
```

C Source Code

```c
#include <stdio.h>
#include <stdlib.h>
int main(){
    printf("Hello World\n");
    return EXIT_SUCCESS;
}

```

C Directory Listing

```
[mmoustaf@gc112m38 C]$ ls
HelloWorld  HelloWorld.c
[mmoustaf@gc112m38 C]$
```

C Output

```
[mmoustaf@gc112m38 C]$ gcc -o HelloWorld HelloWorld.c
[mmoustaf@gc112m38 C]$ ./HelloWorld
Hello World
[mmoustaf@gc112m38 C]$
```

1C

When compiling a Java program, a .class file is created which can only be executed by a Java Runtime Environment. A .class file contains bytecode (binary program code executable by a Java Virtual Machine). When compiling a C program with gcc -o it results in an executable program. Java runs across a VM which is standardized across all platforms that it runs on, while C depends on the hardware of the machine.[1]

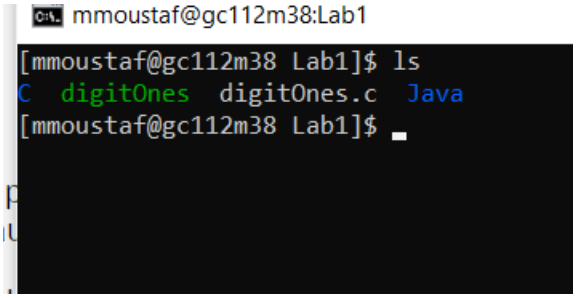
[1] CLASS File Extension - What is a .class file and how do I open it? (fileinfo.com)

digitOnes

digitOnes Source Code

```c
#include <stdio.h>
#include <stdlib.h>
int main(int argc, char * * argv)
{
    int value;
    int iErr;
    int counter;
    printf("Value to examine: ");
    iErr = scanf("%d", &value);
    if (iErr != 1){
        printf("Unable to read the value\n");
    }
    if (value < 1)
    {
        return EXIT_FAILURE;
    }
    else
    {
        counter = 0;
        while (value > 0)
        {
            if (value % 2 == 1){
                counter++;
            }
            value = value / 2;
        }
        printf("Number of ones: %d\n", counter);
    }
     return EXIT_SUCCESS;
}
```

digitOnes Directory



digitOnes Compile and Testing