

Kartik Srivastava

Student ID – 3668516

LAB 1

lab1.java

```
public class lab1
{
    public static void main(String args[])
    {
        System.out.println("Hello World");
    }
}
```

Output:

```
C:\Users\srvk\OneDrive\Desktop\UNB\Summer2020\CS2263\Labs\Lab1>javac lab1.java

C:\Users\srvk\OneDrive\Desktop\UNB\Summer2020\CS2263\Labs\Lab1>java lab1
Hello World
```

lab1c.c

```
#include <stdio.h>
int main()
{
    printf("Hello World");

    return 0;
}
```

Output:

```
C:\Users\srvk\OneDrive\Desktop\UNB\Summer2020\CS2263\Labs\Lab1>gcc C:\Users\srvk\OneDrive\Desktop\UNB\Summer2020\CS2263\Labs\Lab1\lab1c.c -o mine

C:\Users\srvk\OneDrive\Desktop\UNB\Summer2020\CS2263\Labs\Lab1>mine
Hello World
C:\Users\srvk\OneDrive\Desktop\UNB\Summer2020\CS2263\Labs\Lab1>
```

The C compiler compiles the source code into machine language. A Java compiler compiles it for the JVM into byte code. (<https://introcs.cs.princeton.edu/java/faq/c2java.html>) This is independent

of the hardware platform on which it is going to run. This is why Java has a command to run program while C doesn't.

digitOnes.c

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int value;
    int iErr;

    printf("Value to examine: ");
    iErr = scanf("%d", &value);

    if(iErr != 1)
    {
        printf("Unable to read the value\n");
    }

    if(value <= 0)
    {
        printf("Invalid input");
        exit(0);
    }
    else
    {
        int numOnes = 0;

        while(value > 0)
        {
            if(value & 1)
                numOnes++;

            value >>= 1;
        }

        printf("Number of ones: %d\n", numOnes);

        return EXIT_SUCCESS;
    }
}
```

Output:

```
C:\Users\srivk>gcc C:\Users\srivk\OneDrive\Desktop\UNB\Summer2020\CS2263\Labs\Lab1\digitOnes.c -o testing

C:\Users\srivk>testing
Value to examine: -94
Invalid input
C:\Users\srivk>testing
Value to examine: 0
Invalid input
C:\Users\srivk>testing
Value to examine: 52
Number of ones: 3

C:\Users\srivk>testing
Value to examine: 192
Number of ones: 2
```

Directory:

