LAB ACTIVITY 1:
Introduction to Java Programming
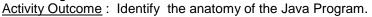
Learning Outcomes:

By the end of this laboratory session, you should be able to:

1. **Identify the features of Java programming language.**
2. **Apply programming style and documentation in Java.**
3. **Write, compile and run the Java programs.**
4. **Troubleshoot the source code to identify the errors in Java.**

Hardware/Software: Computer with JDK latest version.

Activity 1A

<u>Activity Outcome</u> : Identify the anatomy of the Java Program.

<u>Procedure:</u>
1. Analyze the HelloWorldApp program
2. Complete the following table with the correct line number and code of Java program:

```
1. /* Activity 1A */

2. class HelloWorldApp {
3.      public static void main(String[] args)
4.      {
5.            System.out.println("Hello World!");
6.      }
7. }
```

No	Components	Line No	Corresponding Code
1.	Comments		
2.	Class name		
3.	Access modifier		
4.	Argument		
5.	Static method		

Activity 1B

Activity Outcome: Identify programming style and documentation in Java.
Write java program with programming style and documentation.

Procedure:
Step 1: Open Notepad and type the following code:

```
/* Activity 1B */

class Act1B      //  define class name
{ // open curly brace the beginning of class block

     // main program where the program start
     public static void main(String[] args)
     {     // open curly brace for main block
          //statement to print string
          System.out.println("Hello, my name is  <YOUR NAME>.");
          System.out.println("\tI'm from _____.");
     } //close curly brace for main block
} //end of class with close curly brace for body of block class
```

Step 2: Save, compile and run the program. Save the program as `Act1B.java`. Write the output in the area below.

Output:

Activity 1C

Activity Outcome: Identify programming style and documentation in Java program.
Write java program with programming style and do documentation.

Procedures :
Step 1 : Open Notepad and type the following code:

```
/* Activity 1C */
public class Act3F {   public static void main(String[] args) {
int number1 = 11; int number2 = 22; int number3 = 33; int number4 = 44;
int number5 = 55; int sum;
sum = number1 + number2 + number3 + number4 + number5;
System.out.print("The sum is ");
System.out.println(sum); }}
```

Step 2 : Add the appropriate comments and comment style, proper indention and spacing and block styles

Step 3 : Save, compile and run the program. Save the program as `Act1C.java`. Write the output in the area below.

Output:

Activity 1D (CLO2)

Activity Outcome: Identify programming errors in Java program.
Identify the errors and modify the program to fix the error(s).

```
/* Activity 1D */

Class Act1D
{
public static void Main(String[] args)
[
     System.out.println ("I Love Java Programming!");
     System.out.println ("I know how to write Java Program!);
     System.out.print ("It is simple and easy.")
)
}
```

Activity 1E (CLO2)

Activity Outcome: Identify programming errors in Java program.
Identify the errors and modify the program to fix the error(s).

```
/* Activity 1E //

class Act1E
{
public static void Main(String[] args)
{
     double price1=50.65;
     double total = price1/0;
     System.out.println ("Total price is "+total);

}
}
```

Write the correct program below:

Program:

Activity 1F (CLO2)

Activity Outcome: Identify programming errors in Java.
Identify syntax errors in Java, implements programming style and documentation.

Procedures :
Step 1 : Open Notepad and type the following code:

```
/* Activity 1F */

Class Act3I {
      public Static void main(String[] args) {
            Sytem.out.prntln("Hello World!");
      }
}
```

Step 2 :   Save the program as `Act1F.java` in the working directory, compile and run the program.
Step 3 : Observe the output.
Step 4: Identify the syntax error and correct the syntax errors.
Step 5 : Save your program, compile and run the program again.

Output:

Activity 1G (CLO2)

Activity Outcome: Identify programming errors in Java.
Identify logic errors in Java, implements programming style and documentation.

Procedures :

Step 1 : Open Notepad and type the following code:

```
/* Activity 1G */

class Act1G {
      public static void main(String[] args) {
            int mark = 59;
            if (mark < 50) // programmer mistake but syntaxly correct
                  System.out.println("PASSED");
            else
                  System.out.println("FAILED");
      }
}
```

Step 2 :   Save the program `as Act1G.java` in the working directory, compile and run the program.
Step 3 : Observe the output.
Step 4: Identify the logic error and correct the logic errors.
Step 5 : Save your program, compile and run the program again.

Output: