1. Session 1: Introduction to OOP and Basic JAVA programming.

2. Intended Learning Outcome:

a. Get up and running with Java programming.

b. Appreciate Java programming language.

3. Expected skills:

a. Basic Java:

- Will know what JVM is and can draw the work flow of JVM.
- Will know what JDK is and why it's needed to run Java Programs.
- Can test if JDK is installed in the system using Command Line.
- Can install IDE (Eclipse/Net beans)
- Knows how to create project, create class, write code in them and run them.
- Knows Basic Input/ Output (Printing/Scanning)
- Knows about different data types and their usage (Int, long, double, char, byte, short)
- Knows Basic Java programming.
- Can write If else condition in Java.
- Can Implement For Loop/While loop in Java

4. Tools Required:

a. JDK

b. ECLIPSE / NETBEANS

5. Session Detail:

1. An introductory lecture on what is Java and why it's important.
2. Java environment setup.
3. Teacher will talk about what JVM and JDK is and will draw the work flow of JVM on board. Teacher will show the students how to check if JDK is installed and how to install it.
4. Teacher will show how to install and IDE and will create a project and will assist and will make sure all the students were able to create a project in the IDE.
5. Basic Syntax.
6. Java naming convention.
7. Basic Java programming.
8. Exercise on Conditional Statements, Loop, Array, String.

6. Post Lab Exercise:

a. Write a Java program to convert temperature from Fahrenheit to Celsius degree.

Test Data

Input a degree in Fahrenheit: 212

***Expected Output* :**

212.0 degree Fahrenheit is equal to 100.0 in Celsius

b. SOLVE THESE PROBLEMS USING JAVA:

1. Write a program to test a year if it is leap year or not.
2. Write a program to evaluate the following series
   $1^2+3^2+5^2+$……. Up to n terms
3. Write a program to evaluate the following series
   1-2+3-4+……. Up to n terms
4. Write a program to find the factorial of a number.
5. Write a program to find the power for a given base and exponent.
6. Write a program to find the Bangla season form a given month using if/switch.
7. Write a program to find the largest number in a list of Array.
8. Write a program to sort some number in ascending order.

7. Further Readings:

a. http://www.javatpoint.com/java-tutorial

b. https://www.tutorialspoint.com/java/index.htm