BASICS

OOP is a programming methodology that helps organize Complex programs through the use of   
Inheritance, Encapsulation, Polymorphism, Abstraction, Information passing, and Message-passing. (All definitions written later)

* 1. FIRST PROGRAM (Hello World! ) HelloWorld.java

Note:   
For Java to recognize this as a public class(not throw a compile-time error), the filename must be the same as the class name (HelloWorld in this example) with a ‘.java’ extension.   
There should also be a public access modifier before it.

*import java. lang.\*;*

Importing the java.lang package to use the System class and println method.

*class HelloWorld*

The class keyword begins the class definition for a class named HelloWorld.

Every Java application contains at least one class definition.

*{*

*public static void main(String args[])*

This is an entry point method from which the JVM can run your program. Every Java program should have one.   
**public:** meaning that the method can be called from anywhere, from outside the program as well.

**static:** meaning it exists and can be run by itself (at the class level without creating an object).

**void:** meaning it returns no value.

This main method accepts:   
An array (typically called args) of Strings passed as arguments to the main function   
(e.g. from command line arguments).   
Almost all of this is required for a Java entry point method.

*{*

*System.out.println("Hello, World!");*

The println method is a member of the out object,   
which is a static data member of the System class.

*} //end of main function scope*

*} ////end of class HelloWorld scope*

A real-life java program/application will generally require more than one class. Example of such program:

*class Room*

*{  
 float length;*

*float breadth;*

*void getdata(float a, float b)*

*{*

*length = a;*

*breadth = b;*

*}  
}*

*class RoomArea  
{*

*public static void main(String args[])*

*{*

*float area;*

*Room room1 = new Room();*

*room1.getdata(14,10);*

*area = room1.length \*room1.breadth;*

*System.out.println(“The area of the room1 is ”+ area);*

*}*

*}*

* 2. Keywords in Java

abstract continue for new switch   
assert default goto package synchronized   
boolean do if private this   
break double implements protected throw   
byte else import public throws   
case enum instanceof return transient   
catch extends int short try   
char final interface static void   
class finally long strictfp volatile   
const float native super while

* 3. VARIABLES

Instance Variable:   
A variable declared inside the class but outside the body of the method is

called an instance variable.

Local Variable:   
A local variable in Java is a variable that's declared within the body of a method

Static Variable:   
Static variables are stored in the static memory.   
  
Variables are created when the program starts and destroyed when the program stops.

* 4. DATA TYPES

PRIMITIVE   
{a basic type provided by the programming language as a basic building block}

1. Integer types

(1byte) 8bits - byte,

(2bytes) 16bits - short,

(4bytes) 32bits - int,

(8bytes) 64bits - long,

1. Floating Point

(4) 32 bits- float,

(8) 64 bits- double

1. Chars & Booleans

1 bit - boolean

16 bits- char

Reference type (Non-primitive) - copied by reference in programmes.  
such as String, Arrays, Interface, Object, and Classes

unsigned right shift operator, expressions, branching and looping.