**OOPS CONCEPT:**

* Software Objects: Their nature is virtual.
* Classes: A class is a template to describe a software object. This description involved the 2 basic characteristics.
  + State: It represents data. Data can be primitive and objects of other classes.
  + Behavior: A proper procedure needs to be followed. Procedures are constructors or methods.
  + Class is made up of data, constructors and methods.
* Objects: A class is used to declare an object also called Reference- Variables in Java.
  + Objects in Java are not operational upon declaration unlike C++.
  + Compilation will be successful buy any attempt to run will lead to a ‘NullPointerException’.
  + Parameters can’t be used when declaring an object in Java. It will give an error saying ‘Semi-colon Expected’.
* Instance: An object in Java has to be instantiated prior to use.
  + The new operator is used to invoke a constructor to instantiate an object into an instance.
  + Instances are operational.
  + The DOT operator is used on an instance to invoke methods.

Pen p1, p2;

p1 = new Pen(); //initiation.

p1.opencap();

p1.write();

p1.closecap();

p1 = null; //Memory released.

p2 = new Pen(“Blue”); //initiation.

p2.openCap();

p2.write();

p2.closeCap();

p2 = null; //Memory released.