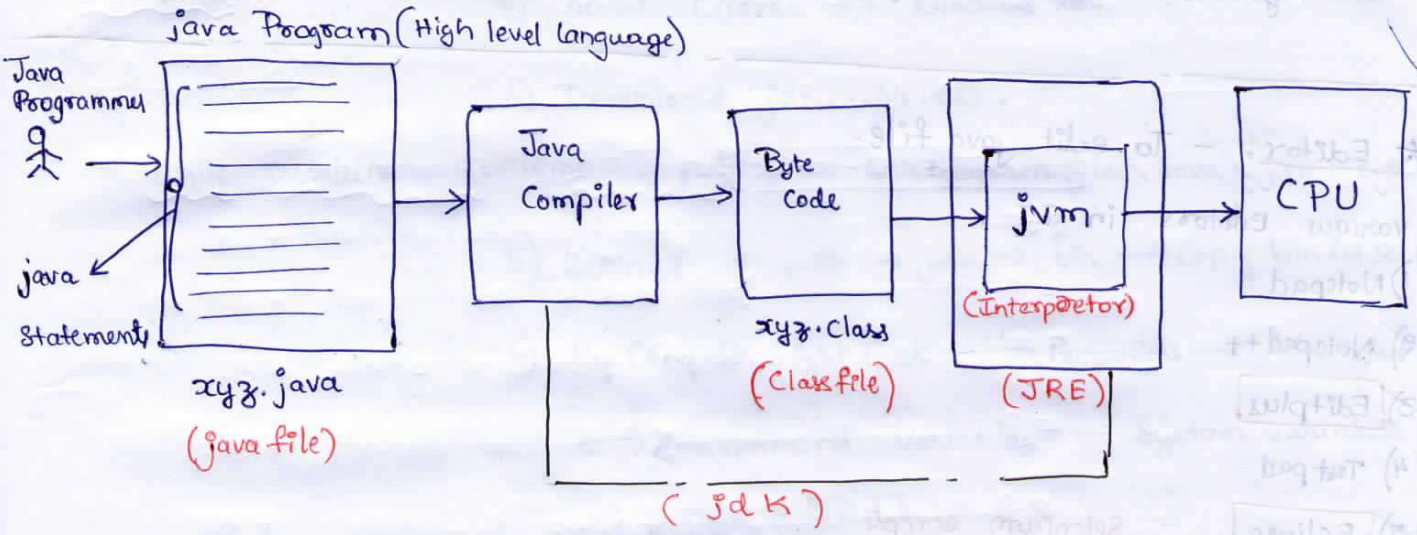
08-01-2013 | Tuesday

CORE JAVA

CHAPTER 1 : BASICS



NOTES :

1) * All java statements are saved as javafile with extension '.java'.

2) * Java Compiler generates Classfile based on javafile.

3) * Class file contains bytecode, which is understood only by jvm [Java Virtual Machine].

4) * jvm is a interpretor, it converts byte code line by line into Machine Level Language (M.L.L) during execution.

5) * Java compiler and Jre (Java runtime Environment) together is called jdk.

6) * Java is platform independant i.e only needs classfile, only condition it needs jvm.

Interview Questions

1*) What is executable format of Java?

A: Bytecode i.e classfile (only need jvm, i.e Jre).

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* Editor: - To edit java file.

various editors in IT:

1) Notepad
2) Notepad++
3) Editplus
4) Test pad
5) Eclipse - Selenium script
6) NetBeans

2*) How To Install:

Step1 : To Install 1) Editor - editplus
2) Java Compiler
3) Jre
] — Jdk [Java development Kit]

Step2: Version : jdk - 1.5
jdk - 1.6
jdk - 1.7 - latest

Step3: Types of Releases:

Selenium - 1) J2SE - Java 2 Standard Edition [Standalone, Client server applications]

2) J2EE - Java 2 Enterprise Edition [Web Applications]

3) J2ME - Java 2 Micro Edition [Mobile Applications]

Step 4: Install : 1) Google → jdk 1.7 download → Java SE Downloads

2) JavaSE → Latest Release → Java Platform

3) Accept License → Windows X64

4) Download jdk...64.exe.

While installing remember path i.e C:\Program Files\Java\jdk1.7.0_01\

5) Settings → path → jdk → bin → Copy bin folder path

6) My Computer right click → Properties → Advanced → Environment Variables → System variables → path → EDIT

7) Variable Value → scroll to end → put ; & then paste copied bin folder path → OK ↵

6) Command prompt : java -version ↵

If error: path error 'java' is not recognised as an internal or external Command (put ; and then paste correct path).

1*) **Program Statements** contains

1.1) Keywords

1.2) Identifier

1.3) Literals

2*) **Keyword** : * pre defined reserved word.

* All keywords in java are in lowercase.

Ex: int, if, switch, void, class, final

3*) **Identifier** : * are the names given/provided in program by programmer.

* **Rules to be followed to give names:**

* Keyword should not be used.

* Use alphanumeric characters.

* Always starts with Alphabets / starting character should be alphabet only.

Ex: 1) int age;
2) double salary1;

} all variable names, method names, program names are identifiers

4*) **Literals** : * Values provided in program

Generally 3 types:

* numeric literals
* Character literals
* String literals.

5*) Developing a java program involves 3 steps

5.1) Coding

5.2) Compilation

5.3) Execution

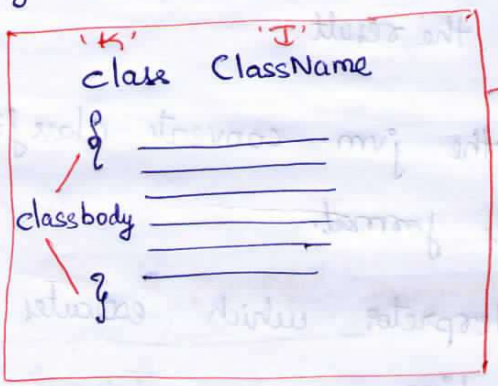
6*) Coding :

Writing a java program is known as Coding. Here we write programmes using java statement.

The program written should be saved with extension '.java'. This file is known as javafile.

A javafile should have class definition block.

The syntax to write class definition block is



Its by convention the classname should begin Uppercase. The java statements has to be written inside the class body.

7*) While saving the java program, the filename should be same as Classname.

8*) Compilation :

8.1*) Is process of converting java file into class file.

8.2*) The class file containe bytecode.

8.3*) Java Compiler translates java statements into bytecodes at the time of compilation.

8.4*) Java Compiler generates the classfile and saves the classfile in the location where javafile is available.

8.5*) The Syntax to compile any java file is

```
javac filename.java
```

9*) Execution :

9.1*) Running the classfile is known as execution.

9.2*) The jvm executes the bytecodes present in the classfile and gives the result.

9.3*) During execution the jvm converts classfile into CPU understandable format.

9.4*) Jvm is an interpreter which executes the statements line by line

9.5*) Syntax to execute classfile is

```
java classname
```

NOTE

10*) jvm starts execution only if java class containe main method otherwise jvm throws error.

11*) A java class which doesn't have a main method connot be executed.

12*) To compile a javafile change the working directory to location where javafile is saved.

Example:

1) P1:

```
class SampleProgram
{
  public static void main(String[] args)
  {
    System.out.println("Hi, Welcome to java");// displays the message on the screen, print new line char
    System.out.println("Java is powerful programming Language");
  }
}
```

O/p: Hi, Welcome to Java
Java is powerful programming Language

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2) P2:

```
class SampleProgram1
{
  psvm(String[] args)
  {
    System.out.print("Hi, Welcome to java \n");// \n is to print in newline
    System.out.print("Java is powerful programming language");
  }
}
```