21/07/2022

Java Notes Day1

Day 1
1. Intro
2. Features of Java
3. First program

Headfirst java - Cathy sierra
The java programming language - James Gosling, David holmes, Ken arnold
Java complete reference - Patrick Norton

Green project

CPU - X86
OS - Windows
Compiler - Turboc
Source code - F.cpp
Compile - F.obj
Headers location is diff, configs, 5% changes req.
Linker - F.exe
Launchit - run

CPU - SPARC
OS - Solaris
Compiler - cc
Source code - F.cpp
Compile - F.o
Linker - F.out
Launchit - run

CPU - IBM
OS - BB
Compiler - AIX
Source code - F.cpp
Compile - F.o
Linker - F.out
Launchit - run

CPU - X86
OS - Windows
JVM
Source code - F.java
Compile - *.clas
Interpreter - runs the code

CPU - SPARC
OS - Solaris
JVM
Source code - F.java
Compile - *.class
Interpreter - runs the code

CPU - IBM
OS - BB
JVM
Source code - F.java
Compile - *.class
Interpreter - runs the code

Example - CD is compiled class file and CD player is JVM - Java Virtual Machine

James gosling\Developed java - Green project using C++ -> Handle many devices through 1 device ->
C++ -> memory allocation, deallocation -> pointers -> security -> PORTABILITY

Java programming language

-Listen
-Speak
-Reading
-Writing

Steps - Create a java file -> Type in the code -> Compile using file name -> Run using class name
Compilation - name of file
Run - class
if - public class Joker - must be saved as a seperate file
every file can have any no of classes and classes can all have main method
Naming convention - GodIsNowHere
setLookAndFeel() - method
rollNumber - variable
PI, SOL - constants

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javap - shows the methods - dissassembler shows only declarations
notepad "Name".java
:set number
javac "Name".java
ls -l First.*
ls -l Greeting.class / dir Greeting.class
java Welcome
ls -l *.java

Code sample:

```
class Greeting
{
public static void main(String Args[])
{
System.out.println("Hello java "+Args[0]);
}
}
```

Features of Java
- Simple
  - no pointer
  - no DMA
  - legacy syntax
- Object oriented
- Compiled and interpreted
- WORA - Write once run anywhere
- Secured (SandBox)
- Multithreaded
- Robust
  - Ability to handle exceptions
  - Ability to perform garbage collection
- Dynamic language
  - new keyword is always required
- Distributed

Classes - Blueprint of an object - logical/simple text filw
Object - Instance of a class - physical/memory based entity -> should be declared with the same name as the class

SavingsAccount y = new SavingsAccount(); -> y is not an object, but a reference to an object

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Data types

Primary(primitive) -> Integral Character boolean
- byte
- char
- short
- int
- long
- double
- float

Secondary(object based)

OOPS concepts -> learn
