Open File Explorer

My Computer > Right Click

Properties

Advanced Settings > Environment variables

User variables, system variables

Click on New -> path -> Till bin of java

Testing -> javac -version & java -version

Sun Microsystems

1990 - > Green Project

1991 -> Released -> OAK

1995 - > Java / Silk / DNA

Python -> 1991

1970, 1980 C/C++ Not portable

Write Once Run Anywhere (WORA)

Binary files-

java -> execution of bytecode

javac -> compiles java file

javadoc -> generating documentation

jar -> java archive -> bytecode (.class files)

Java Development Kit -> binary files + system library + JRE

javac

.java -> .class (bytecode) -> Compilation -> java command -> machine code

JRE -> Java Runtime Environment -> JVM (Java Virtual Machine)

javac <filename.java>

java <class name>

Bytecode execution -

1. Linking and loading -> 10000 classes given - 1-1.5 k loaded atleast + B.class + C.class + static things

2. Bytecode verification

3. Execution -> machine code 10101

4. Execution of machine code inside Java Virtual Machine

Primitive data types / value types

integers - byte (1 byte), short (2 byte), int (4 byte), long (8 bytes)

floating numbers - float (4 bytes) , double(8 bytes)

char - 2 bytes (C/C++ uses only ASCII table)

boolean - true/false (1,2,4 bytes)

Float -> max 7 digits after decimal

Double -> max 16 or 17 digits after decimal

BigInteger -> integers are stored as a string

“100”

“200”

a + b => 100200

a[0]

Reference Types

String

Wrapper Classes - Integer, Float

BigInteger, BigDecimal

-128 -> +127

-32768 -> 32767

1 byte -> 8 bits

\_ \_ \_ \_ \_ \_ \_ \_ -> 255 (65535)

1 or 0

1 and 0

2^7 + 2^6 + 2^5

11110000

11110011

1000000011110011