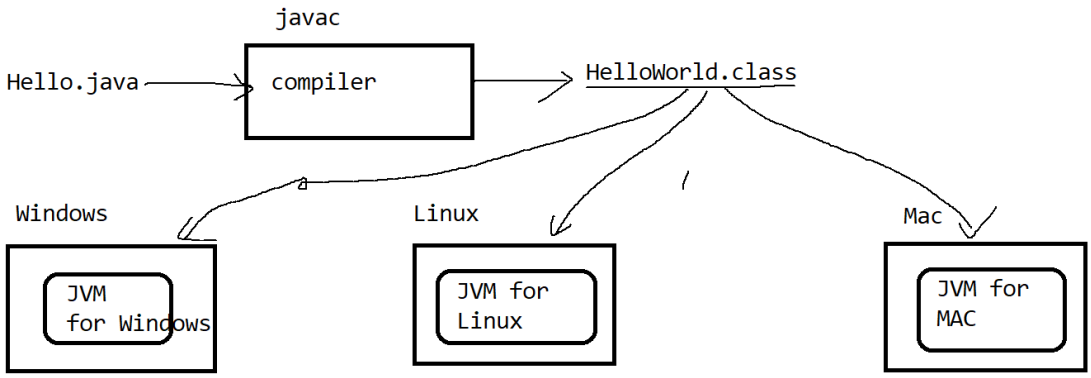
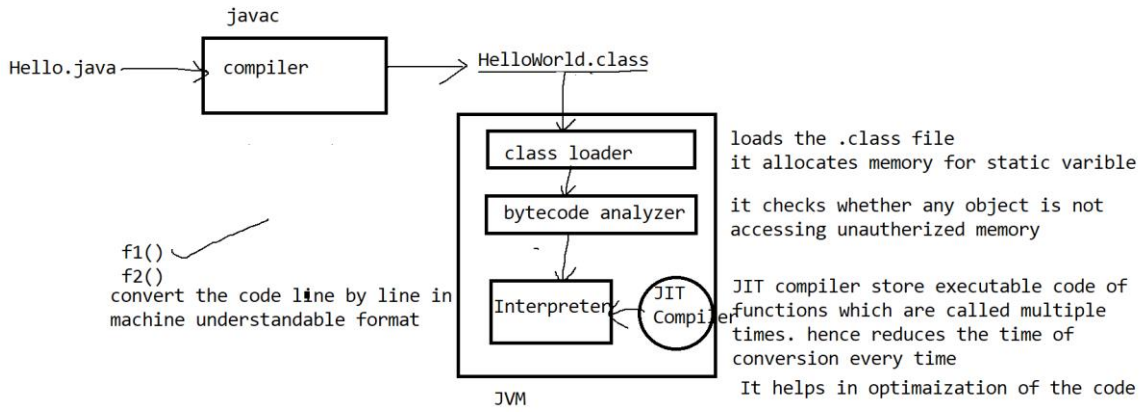
Object oriented Programming using java

Features of java

- Simple : because it doesnot have * operator
- Platform independent: the code written in windows machine can run on linux or Mac machine also.
- Machine independent-→ it is underlying h/w independent
- High level language→ in java we cannot access low level memory by address in the program.
- Multithreading is possible
- Networking is possible
- Data base connectivity is possible
- GUI programming is possible
- Garbage collector facility is available-→ so no memory leakage problem.
- Compiler and Interpreter
- Object oriented.



JVM



System, Integer, String all these are classes in java.lang library, hence no import is required

To store all .class files in separate folder by name bin

C:\javademos> javac -d bin HelloWorld.java

To run the file

C:\javademos> java -classpath .\bin HelloWorld

To avoid adding classpath for every execution, we may set classpath

C:\javademos>set classpath=.\bin; C:\Program Files\Java\jdk1.8.0_162\lib

Basic data types

byte > short > int > long >float > double

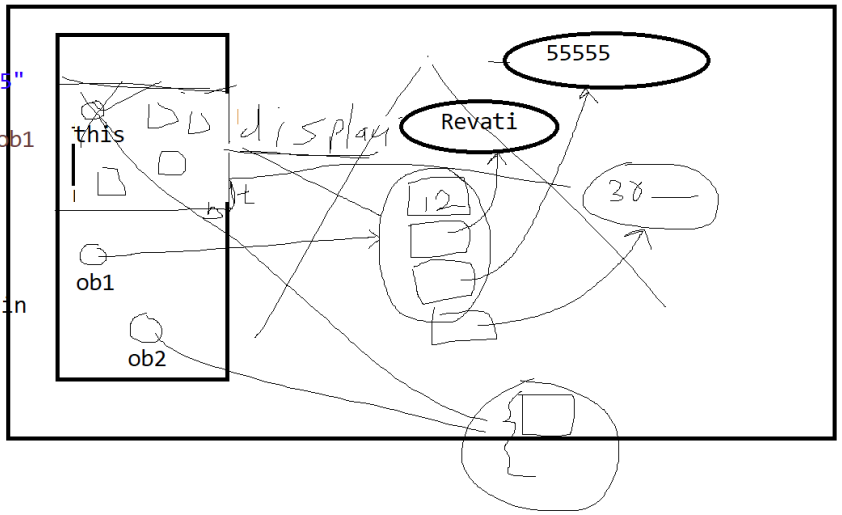
basic operators --→ +, -, /, %, *, ++, --

Relational operators -→ > , <, >=, <=, == , !=

Logical operators-→ &&, ||, !

Bitwise operators→ >>, <<, &, |, ~

```
//parameterized
constructor
    Person ob1=new
Person(12,"Revati","5555"
,new Date());
    System.out.println(ob1
);
```



Day3

1. String class object is immutable,
2. Internally JVM maintains a pool of constants.
3. If you assign any constant String to a object then first it checks whether it exists in the pool. If it is there, then new object will not get created and all references will point to same object
4. If we use new String("test") constructor to create a object, always new object will get created
5. To create mutable String objects, use StringBuffer and StringBuilder, StringBuilder is used in single Thread application, because it is not thread safe
6. StringBuffer is thread safe so used in Multithreaded application.
7. Methods in String Buffer are not efficient as compared to StringBuilder class methods.

Classes are related to each other by either ISA relationship or HasA relationship.

HasA relationship is also called as aggregation , Aggregation are of 2 types

1. Composition→It is tight coupling between classes. Hence usually represented as nested classes.
   The class written inside the other class is called as nested classes
   The inner class can be a normal class, or it can be a static class.
   Outer class can never be static.
2. Association--→It is loose binding. So, both objects should have separate existence

Team class structure

Windows machine----memory structure