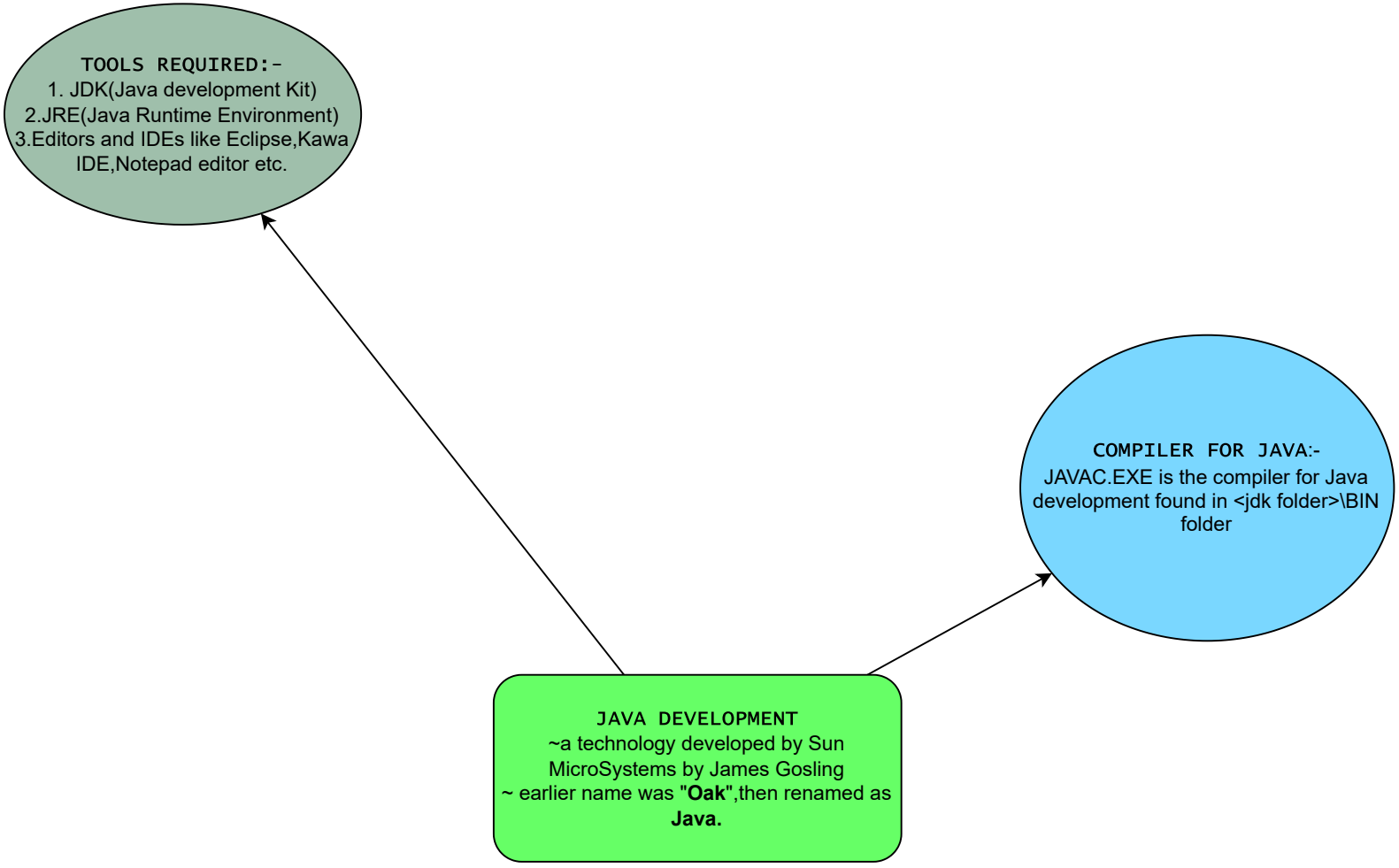
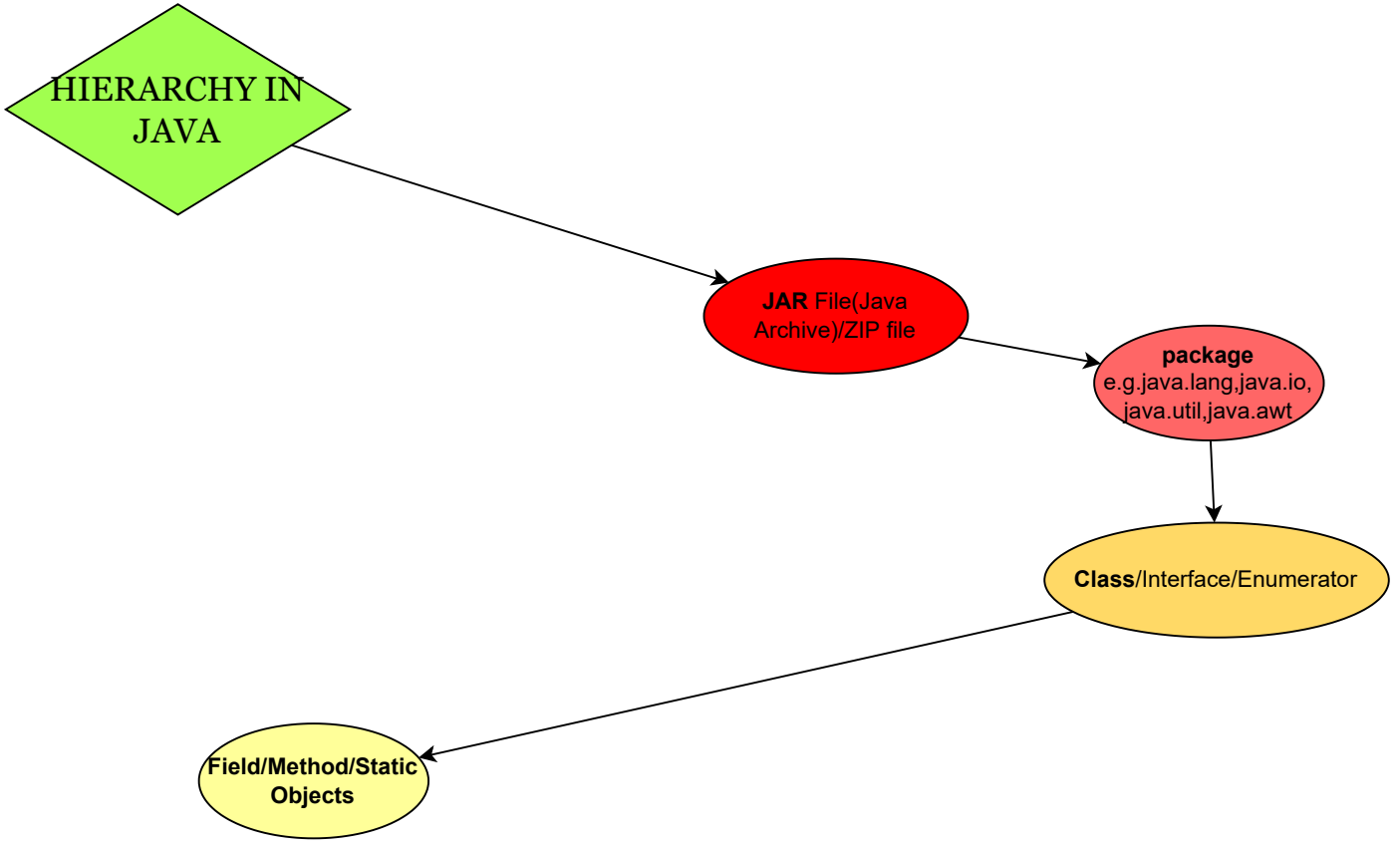
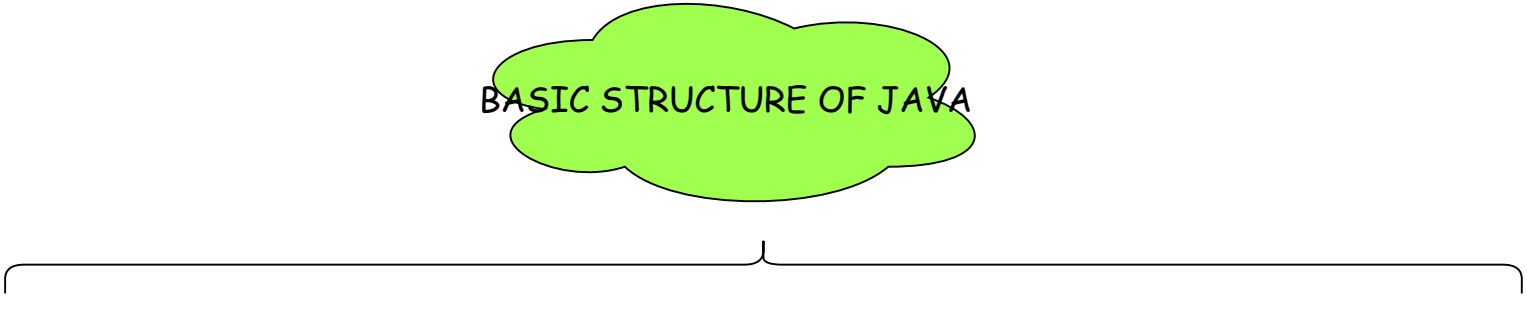
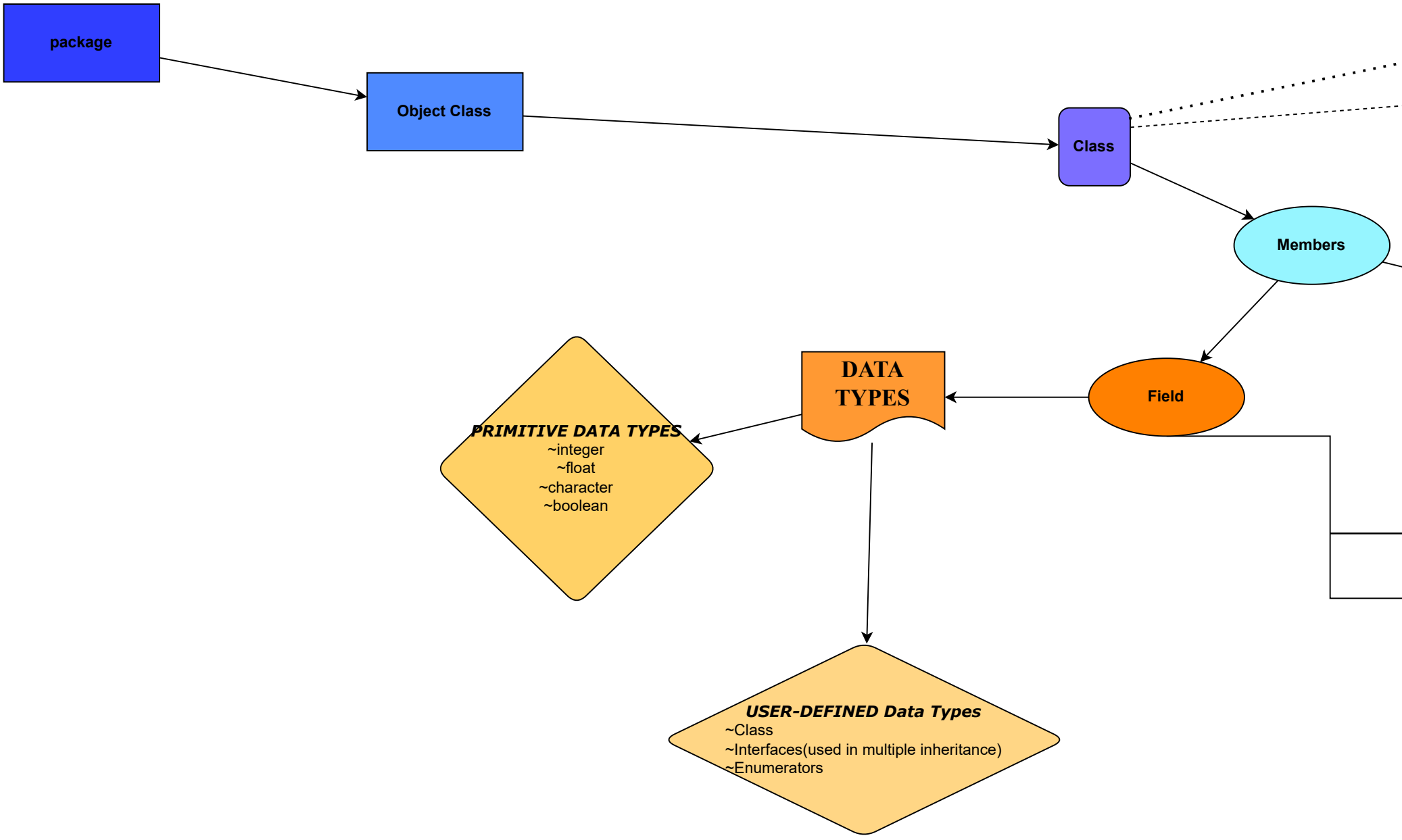
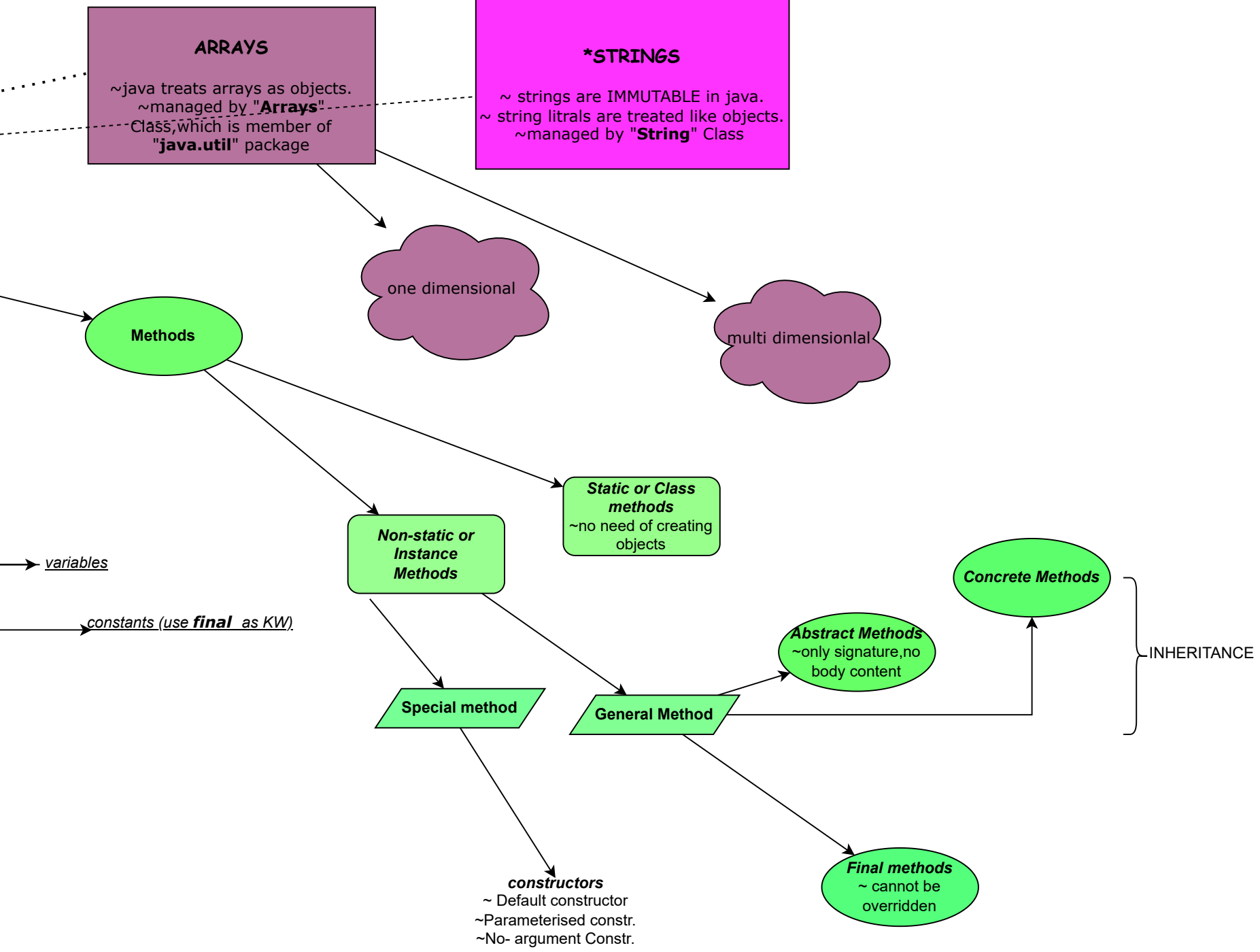

TOOLS REQUIRED:-
1. JDK(Java development Kit)
2.JRE(Java Runtime Environment)
3.Editors and IDEs like Eclipse,Kawa IDE,Notepad editor etc.
COMPILER FOR JAVA:-
JAVAC.EXE is the compiler for Java development found in <jdk folder>\BIN folder
JAVA DEVELOPMENT
~a technology developed by Sun MicroSystems by James Gosling
~ earlier name was "Oak",then renamed as Java.


HIERARCHY IN JAVA
JAR File(Java Archive)/ZIP file
package e.g.java.lang,java.io, java.util,java.awt
Class/Interface/Enumerator
Field/Method/Static Objects


BASIC STRUCTURE OF JAVA


package
Object Class
Class
Members
Field
DATA TYPES
PRIMITIVE DATA TYPES
~integer
~float
~character
~boolean
USER-DEFINED Data Types
~Class
~Interfaces(used in multiple inheritance)
~Enumerators


ARRAYS
~java treats arrays as objects.
~managed by "Arrays"
Class,which is member of
"java.util" package
*STRINGS
~ strings are IMMUTABLE in java.
~ string litrals are treated like objects.
~managed by "String" Class
one dimensional
multi dimensionlal
Methods
Static or Class methods
~no need of creating objects
Non-static or Instance Methods
variables
constants (use final as KW)
Concrete Methods
Abstract Methods
~only signature,no body content
INHERITANCE
Special method
General Method
constructors
~ Default constructor
~Parameterised constr.
~No- argument Constr.
Final methods
~ cannot be overridden

FEATURES OF OOPs

1. Encapsulation
2. Abstraction
3. inheritance
4. Polymorphism

Java as an OOP:

ABSTRACTION

FOUR LAYERS OF ABSTRACTION IN JAVA:-

1. **Public**
2. **Private**
3. **Protected**
4. **Default or Package**

ENCAPSULATION

All elements of a class must be placed at one place

CLASS

members

fields

methods

INHERITANCE

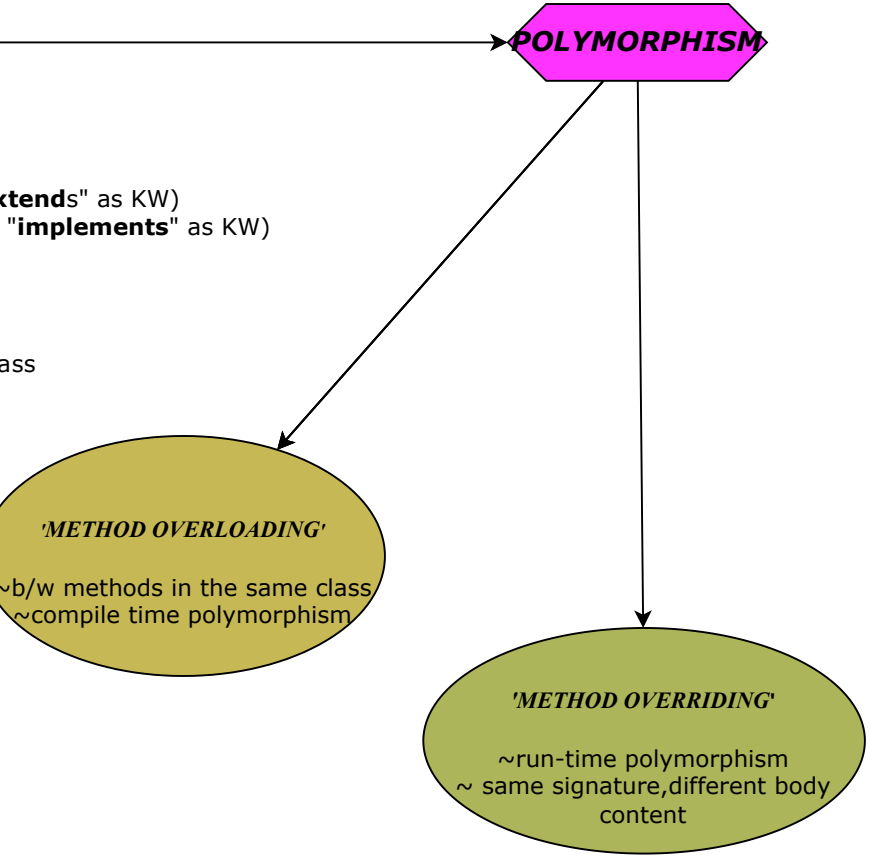
JAVA provides SINGLE INHERITANCE (use "**ex**

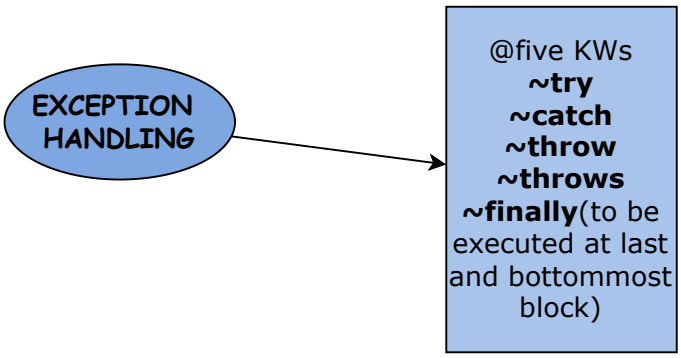
~for MULTIPLE inheritance,Java has **Interfaces** (use

~ **THREE types of classes:-**

1. Current Class
2. Parent Class
3. Super Class

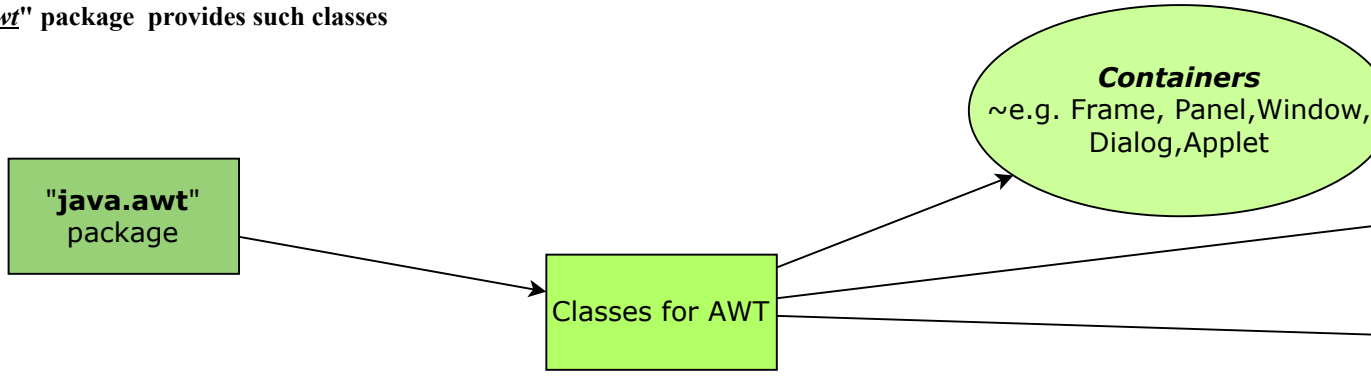
~ "**super**" KW refers to Super Cl

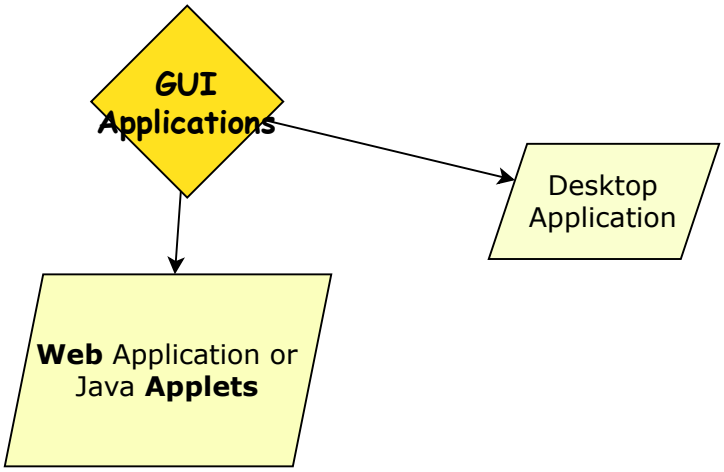

POLYMORPHISM
xtends" as KW)
"implements" as KW)
ass
'METHOD OVERLOADING'
~b/w methods in the same class
~compile time polymorphism
'METHOD OVERRIDING'
~run-time polymorphism
~ same signature,different body content



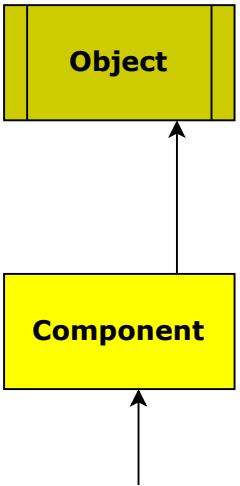
#JAVA AWT(Abstract Window Toolkit)

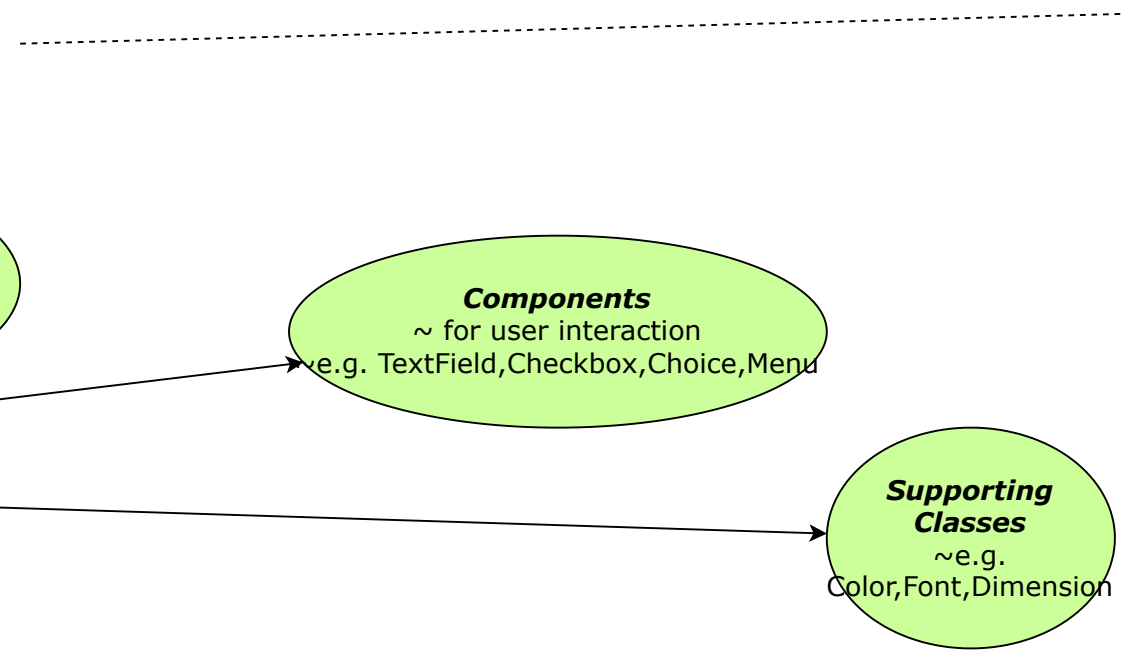
~set of classes for GUI Programming,
~"*java.awt*" package provides such classes

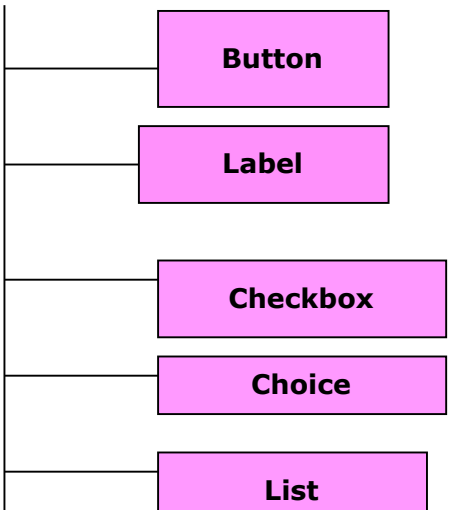


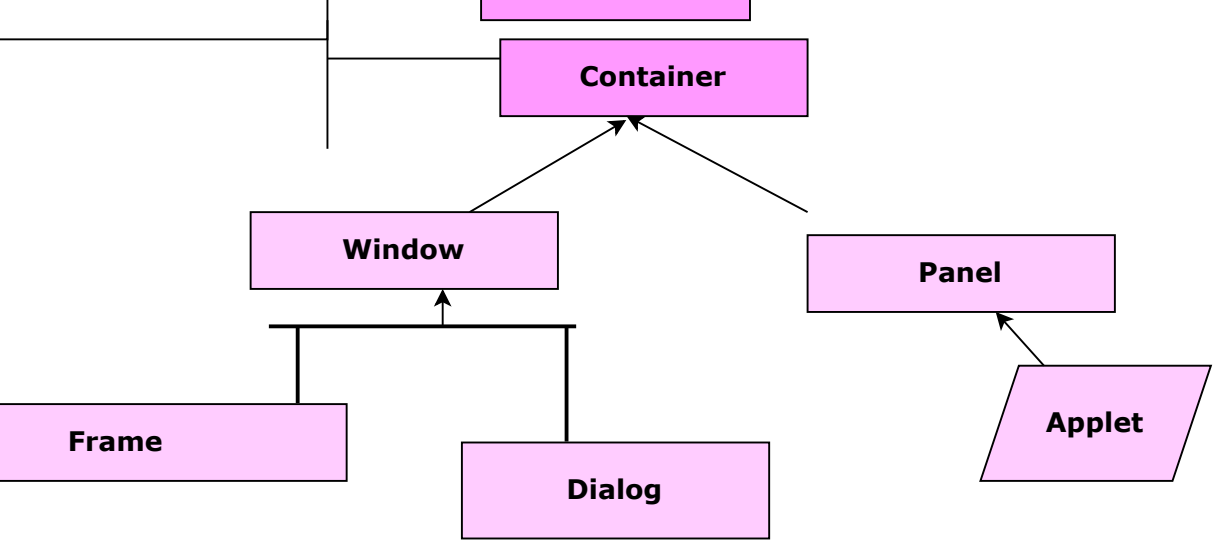


JAVA AWT HIERARCHY:-




Components
~ for user interaction
~e.g. TextField,Checkbox,Choice,Menu
Supporting Classes
~e.g.
Color,Font,Dimension


Button
Label
Checkbox
Choice
List


Container
Window
Panel
Frame
Dialog
Applet