# Java Training

Installation: download java-17

[Java Downloads | Oracle](https://www.oracle.com/java/technologies/downloads/#java17-windows)

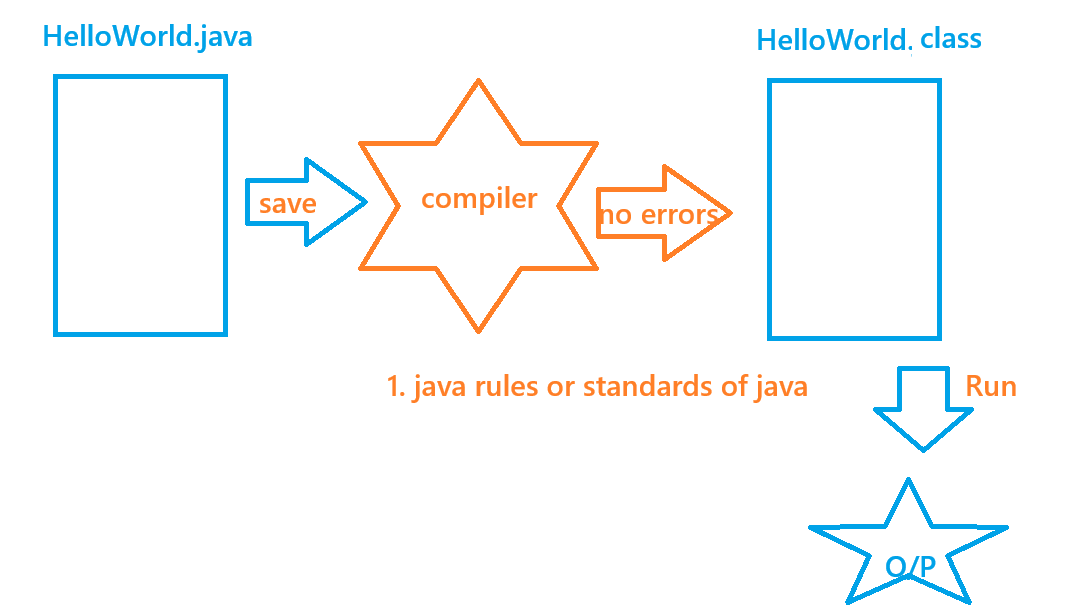
Eclipse Software :

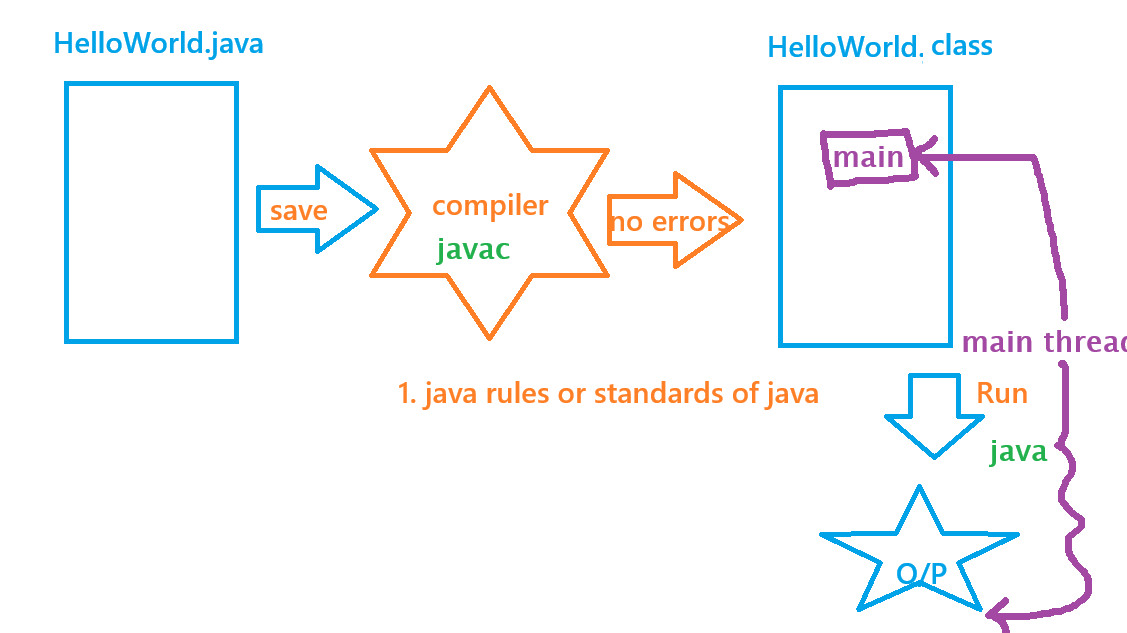
[Eclipse IDE for Java Developers | Eclipse Packages](https://www.eclipse.org/downloads/packages/release/2025-06/r/eclipse-ide-java-developers)

# Package

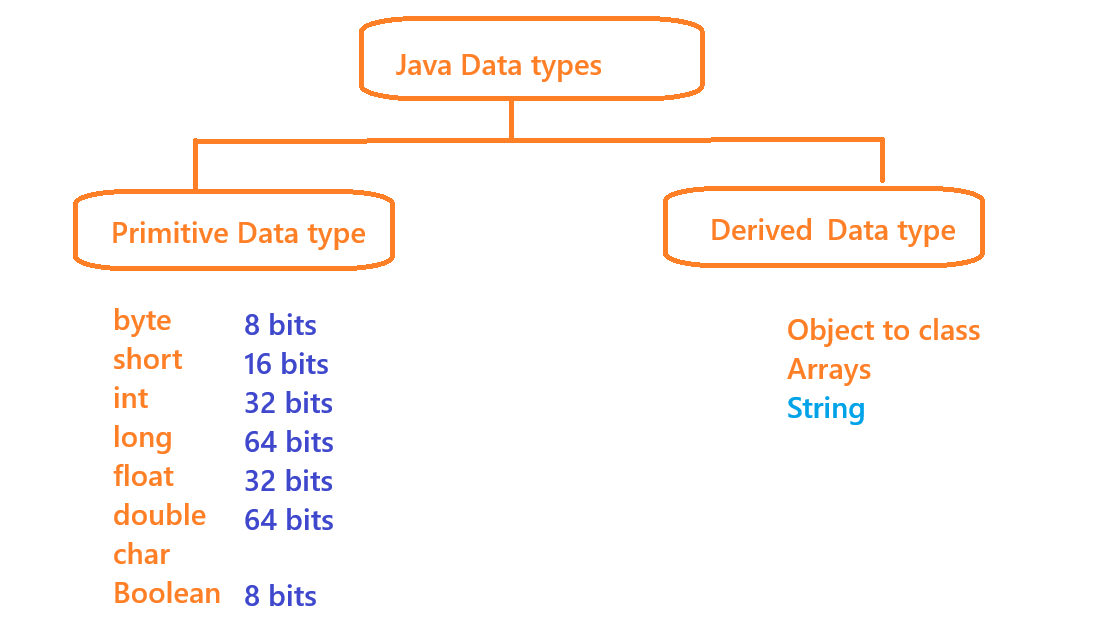
Is a name space used to store the program in an organized way.

Java process :



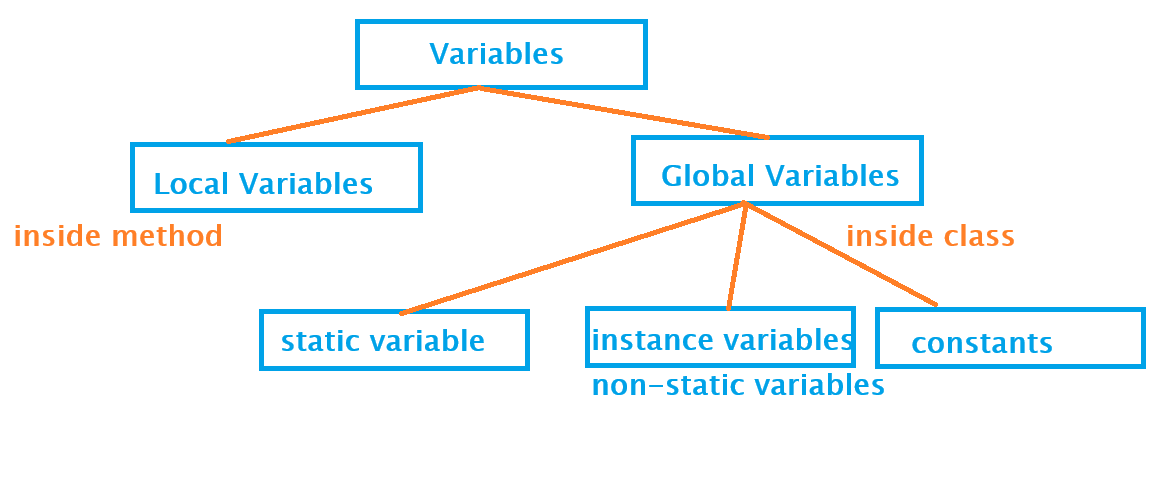


Data types in java

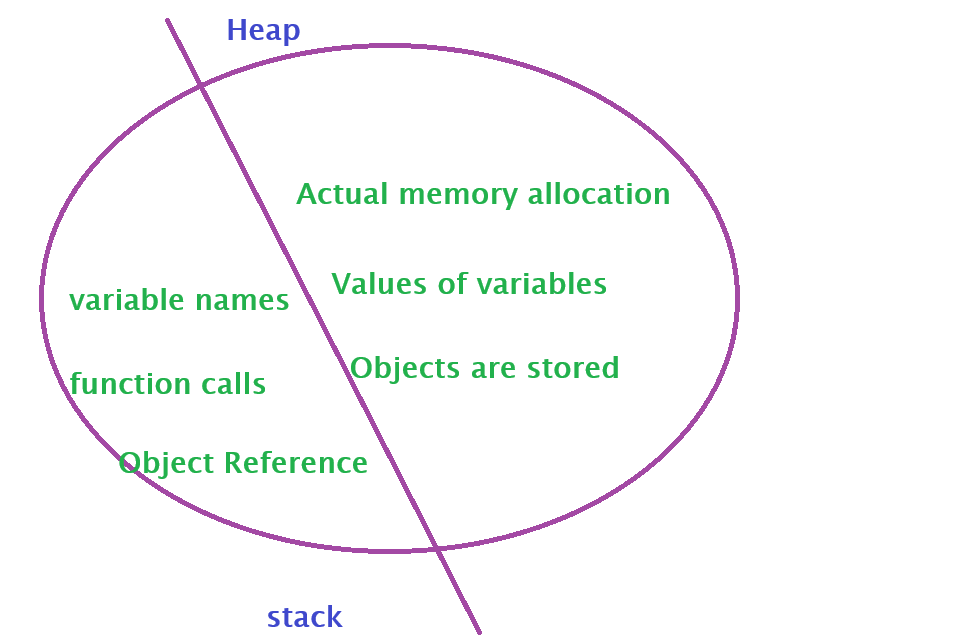


Variables in java

Variables are the names which hold the values



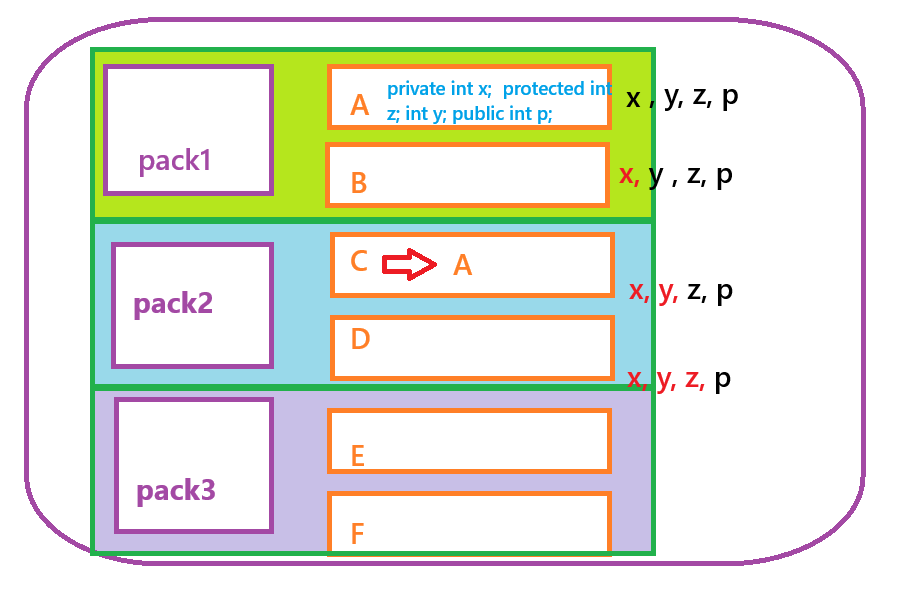
Memory allocation in Java



Access SPECIFIERS or functional access specifiers:

Are given only to global variables or methods/ functions. These specify the accessibility of a member.

1. **private –** only inside class
2. **default –** only inside package, except private member
3. **protected –** inside and outside package only on inherited classes, no private
4. **public -** anywhere

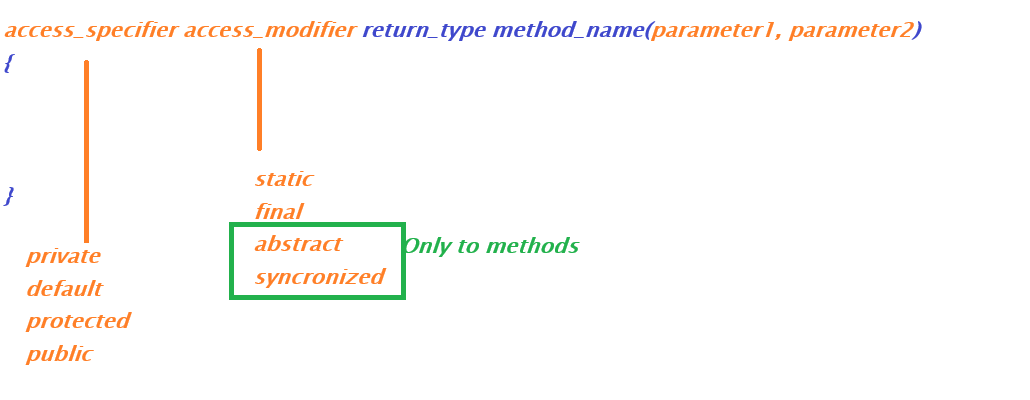


access modifiers or non- functional access specifiers

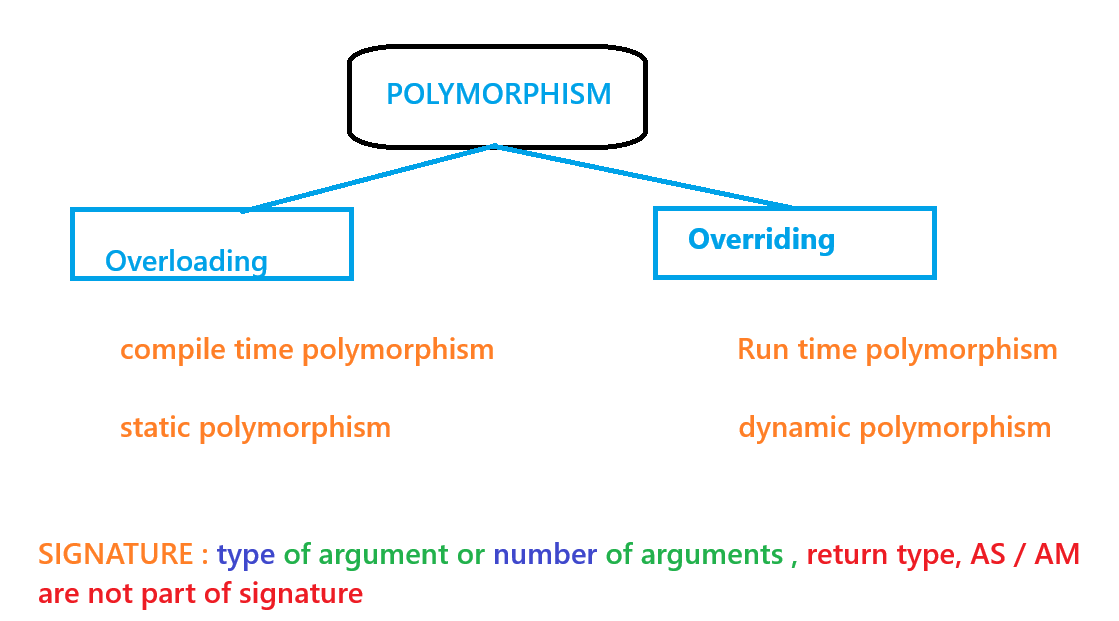
1. **static** – no need of an object
2. **final** – we cannot override the method
3. **abstract** – when the implementation changes from object to object instead of defining a method we can just keep the declaration of the method using abstract keyword.
4. **Synchronized** – is used to restrict multiple thread entering the method at a same time.

Methods in Java

Methods describes the behaviour of an object

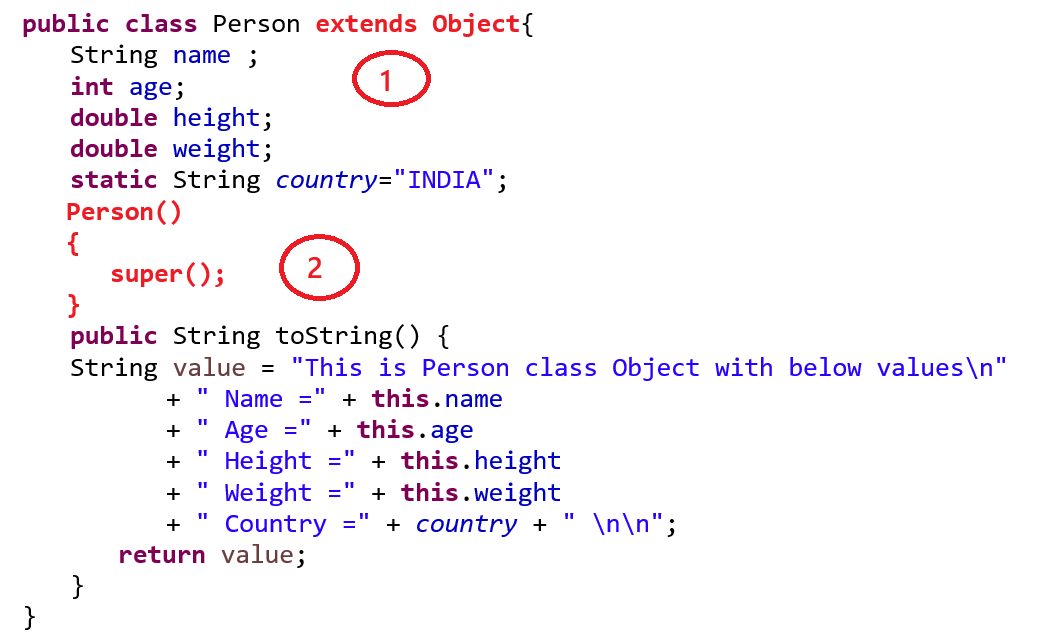


polymorphism :



constructor

Constructors are used to assign default values to all the instance members of the class during object creation



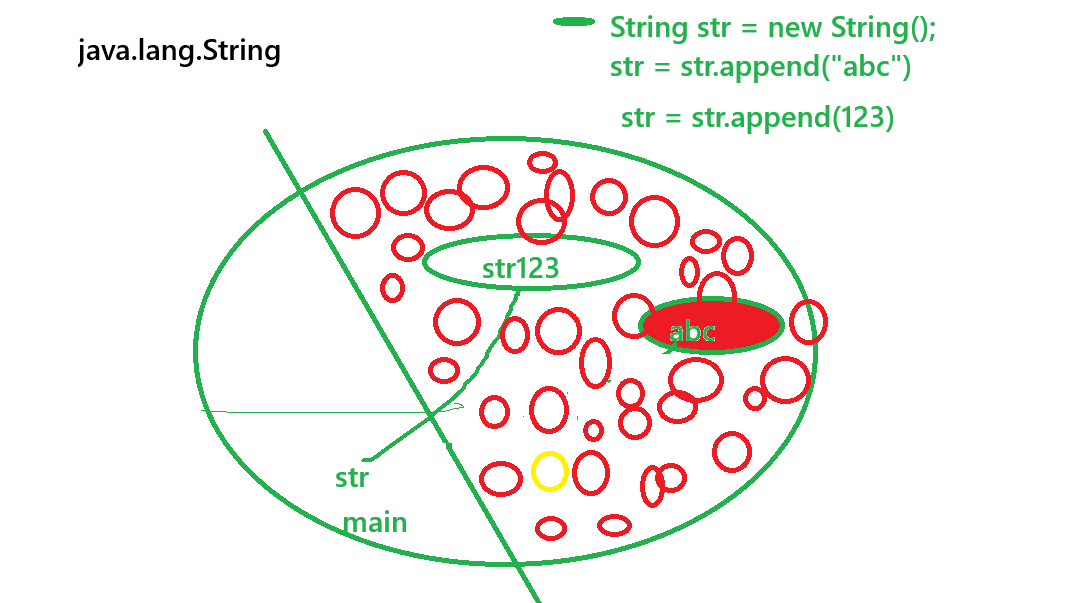
inheritance

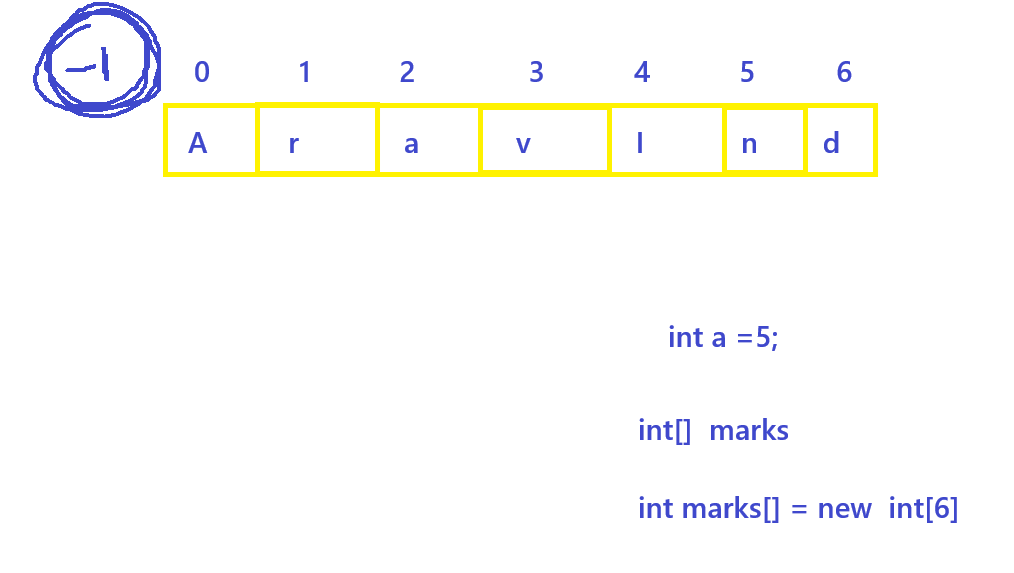
* Single inheritance
* multilevel inheritance
* Multiple inheritance -> Interfaces

interfaces

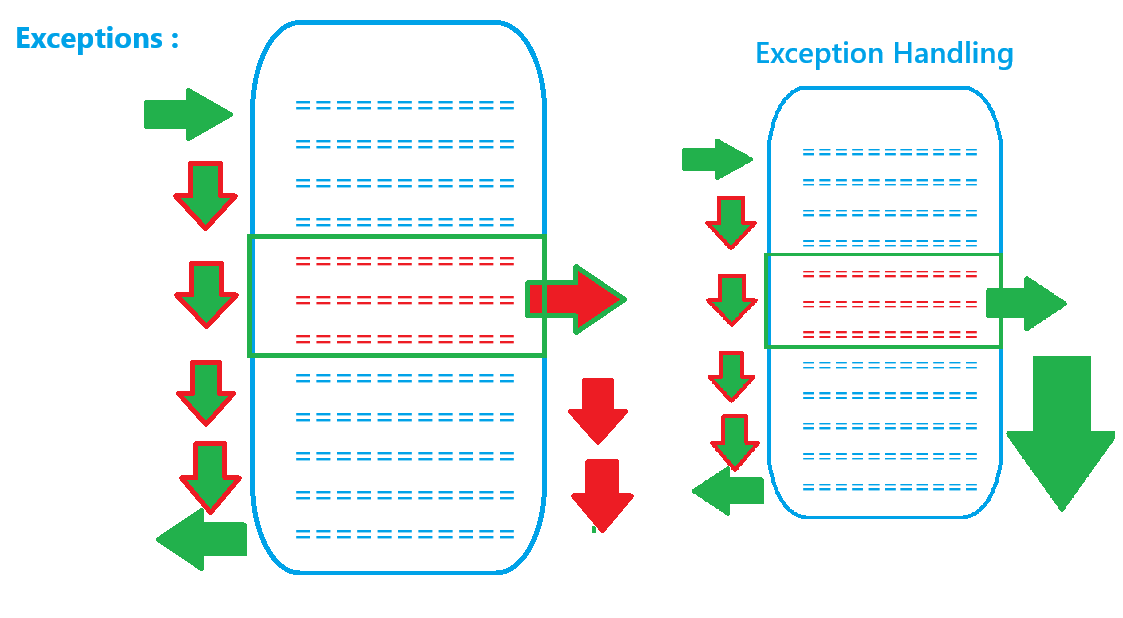
100% pure abstract classes. it is used to achieve multiple inheritance in java

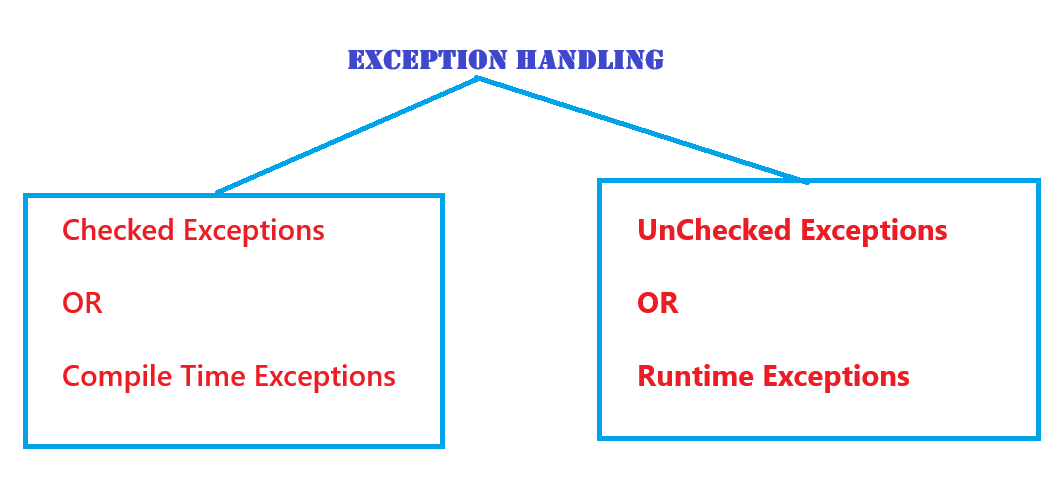
Strings

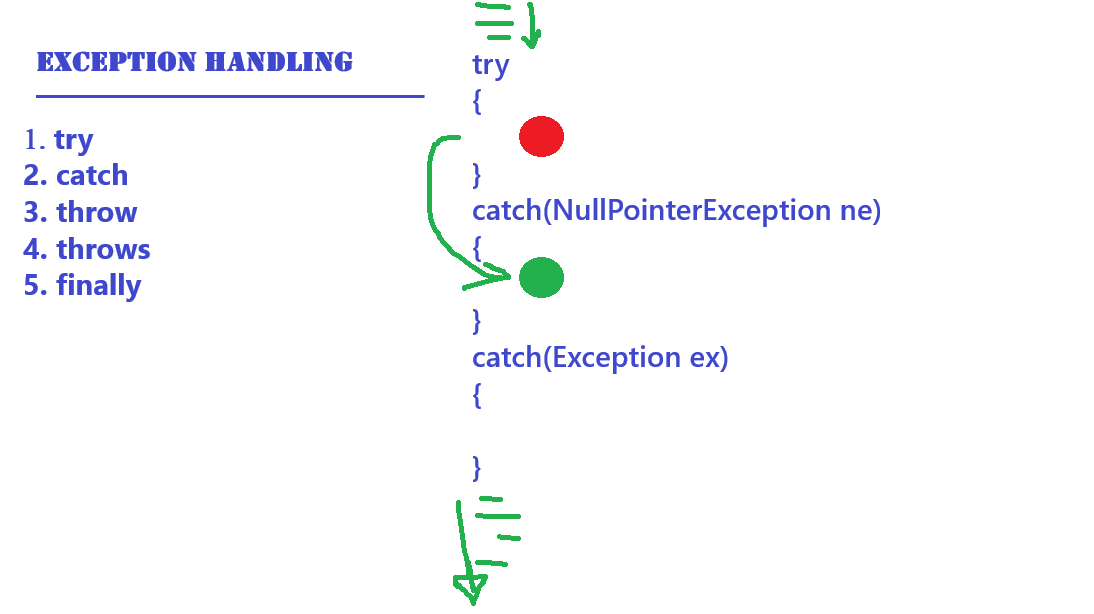


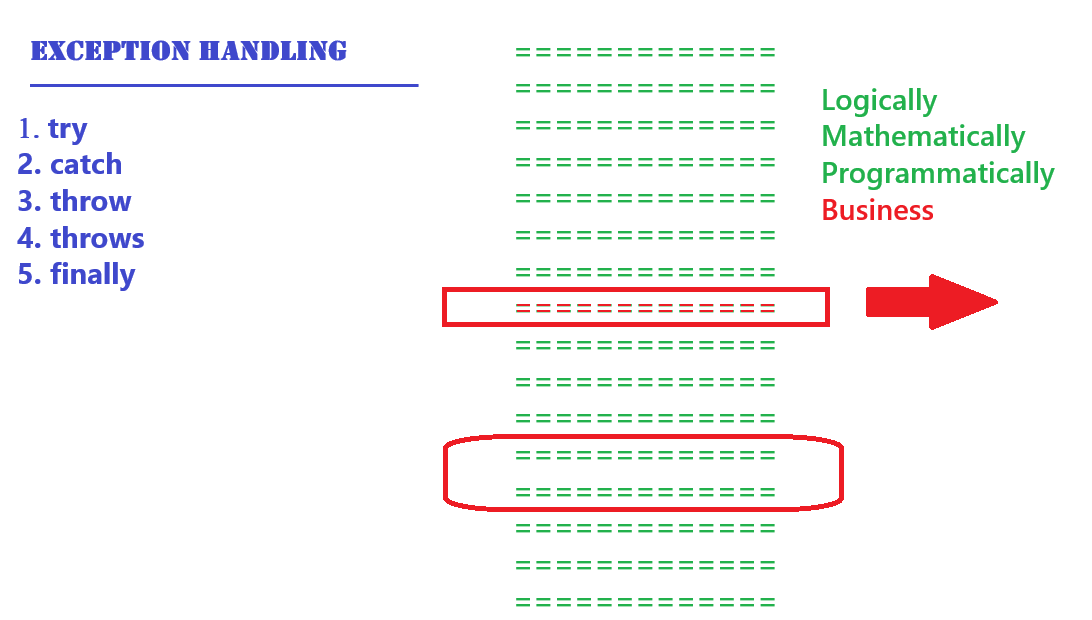


exception handling in java

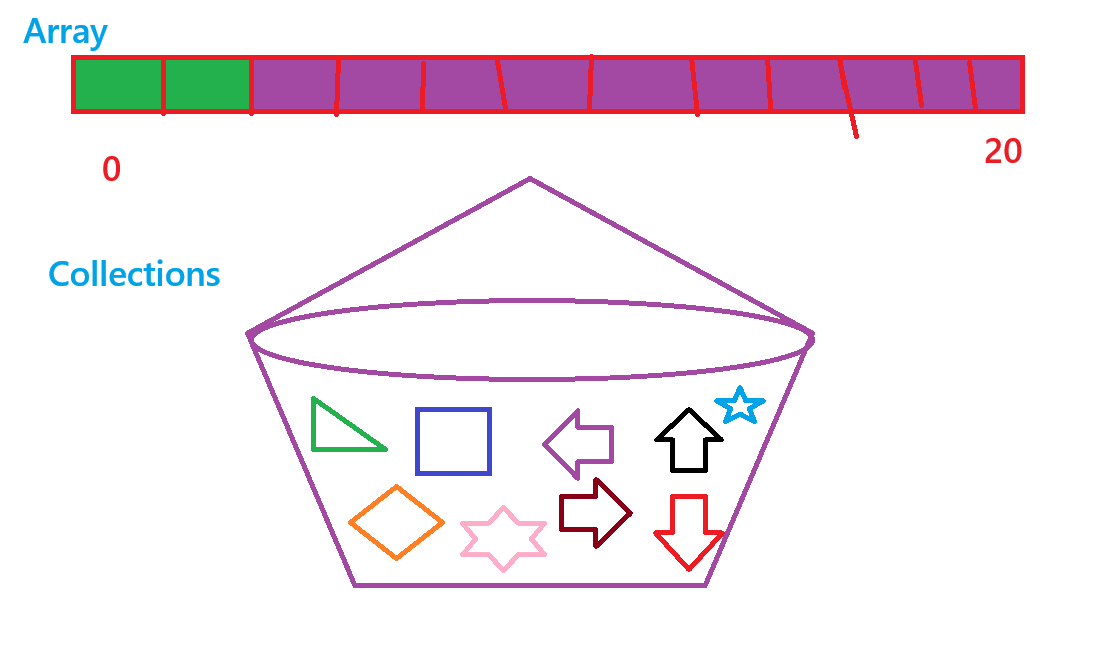




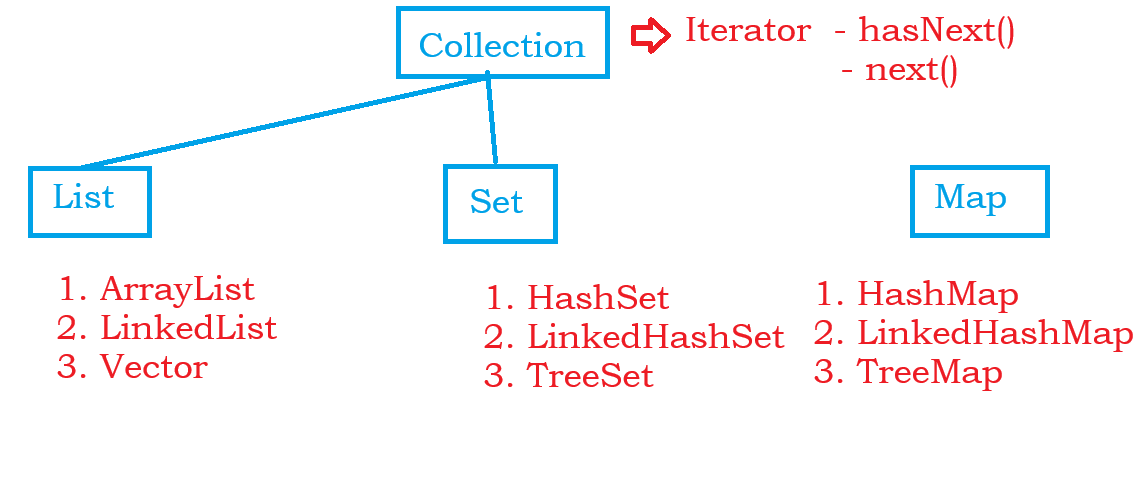


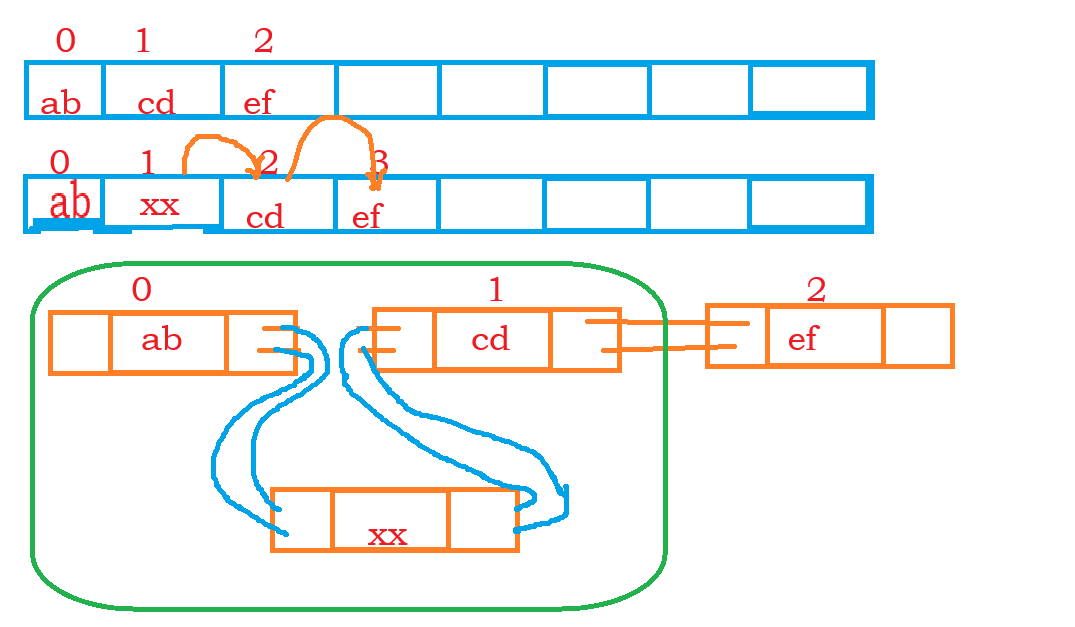


collections in java



Architecture of collection API





Reading and writing to file in java

