

Static Methods

Static - void myMethod() {
 ==
 }
 (2) static method

void myMethod() {
 ==
 }
 Instance method
 (1)

Notes

① Instance method are such methods where there is no "static" keyword modifier, not used in its method prototype

modifier returnType methodName() {

② Ide can call instance methods only after creating an object & through the obj reference

==
 ==
 }

②
 (1) Static methods are such methods where static modifier "is" used in its method prototype
 (2) Static methods can be called with the help of class name or the object reference

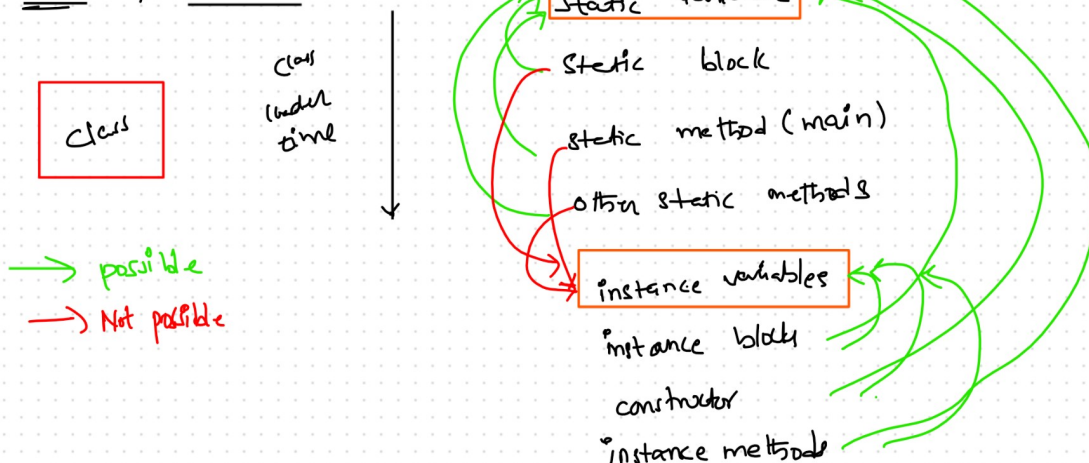
Class Loading

↓
 static variables
 static blocks
 JVM → static main method()
 → only one during class load

Object Creation

↓
 instance variables
 instance block
 constructor
 → n times for n object creation
 new At()

Possible & Not Possible [cheat]



* Difference b/w static variable & instance variable

Static Variable

- ① static 'int n';
- ② There is only one copy for the variable for the whole class
- ③ Can be accessed with class Name (no object creation)
- ④ Memory is allocated in the "Method Area"
- ⑤ Memory is allocated during class loading
- ⑥ Also called as "class variables"
- ⑦ Can be accessed from
 - static blocks
 - static methods
 - instance blocks
 - constructors
 - instance methods
- ⑧ default values are assigned
- ⑨ It is declared outside the method & inside the class

Instance Variable

- ① int n;
- ② There will be one copy for every instance of the class
- ③ Can be accessed only through object reference
- ④ Memory is allocated in the "Heap Area"
- ⑤ Memory is allocated during object creation
- ⑥ Also called as "fields"
- ⑦ Can be accessed from
 - instance blocks
 - constructors
 - instance methods
- ⑧ default values are assigned
- ⑨ It is also same

Differences b/w static Block & Instance Block

Static Block

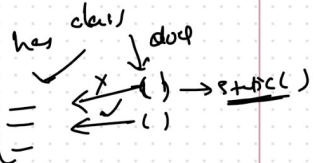
- ① `static {`
`=====`
`}`
- ② Static blocks are executed only once
- ③ Executed during class loading
- ④ We can have multiple static blocks
- ⑤ Order of execution will be from top-bottom

Instance Block

- ① `{`
`=====`
`}`
- ② Execution depends on no. of objects created
- ③ Executed during object creation
- ④ We can have multiple blocks
- ⑤ Order of execution will be from top-bottom

Q When should we make a method static (or) instance?

- ① → A method can be made as static, when we are not using any instance variable inside that method
- ② → If you are making use of any instance variables inside a method then the method() should be instance method()



Note:

Static methods are particularly used as utility methods() or Helper method() → True/False decisions

Customizing default values

```
class Human {
    String name = "x";
    byte age = 1;
}
```

```
new Human()
name [x]
age [1]

new Human()
name [x]
age [1]
```

