

modifier
 ↓
 ② static void myMethod() {
 ≡
 }
 Static method

Static Methods

①
 void myMethod1() {
 ≡
 }
 Instance method

continuation

Note:

- ①
 - c1. Instance methods are such methods where there is no static modifier used in the method prototype
 - c2. We can call instance methods only after creating an object, i.e. through the obj reference
- ②
 - c1. Static methods are such methods where static modifier is used in the method prototype
 - c2. Static methods can be called with the help of class (or) object reference

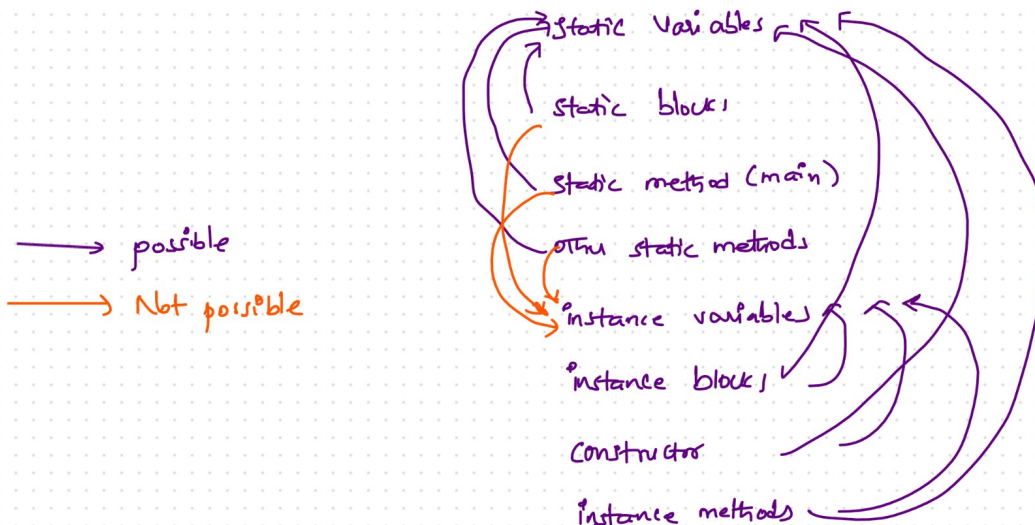
Class Loading

Static variables
 Static blocks

Static main()

Object Creation

Instance variable
 Instance blocks
 Constructor



* Difference b/w static variable & Instance Variable

Static Variable

- (1) static int n
- (2) there is only one copy for the variable (n) for the whole class
- (3) Can be accessed with class name
(or) object reference
- (4) Memory is allocated in method Area
- (5) Memory is allocated during class loading
- (6) Also called as class variable
- (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 one copy for every instance of that class (i.e. object)
- (3) Can be accessed only through object reference
- (4) Memory is allocated in Heap Area
- (5) Memory is allocated during object creation
- (6) Also called as fields / non-static fields
- (7) Can be accessed from
 - instance blocks
 - constructors
 - instance methods

⇒ default values are assigned

- (8) It is declared outside the method & inside the class

* Difference b/w static block & instance block

Static Block

```
class Static {
```

```
}
```

1. Static blocks are executed only once

2. Executed during class loading

3. We can have multiple static blocks

4. Order of execution will be from top-bottom

Instance Block

```
class {
```

```
}
```

1. Executes depending upon no. of objects created

2. Executed during object creation

3. We can have multiple blocks

4. Order of execution will be from top-bottom

Note

When should we make a method as static as well as instance

→ A method can be made as static, when we are not using any instance variables inside the method()

→ If you are making use of any instance variables inside a method then the method should be made as instance method()

ex: setter() & getter()

Note:

(1) Static methods are popularly used as utility method(), helper method() are used when decisions are made [True/False]