Static keyword

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Static

- Is a keyword
- Each class has only one copy of its static members
- All the instances of the class share the same static member value
- Helps to call methods without creating objects
- static block, variables ,methods and class

Static variables

- Only one copy is available for all the instances
- Take the default value of the data types

static int bonus, allowance;

Static block

- JVM enters into the static block first before going to main method(psvm)
- Used to initialize the static variables
- Can have any number of static blocks

```
static{
    bonus = 100;   allowance = 200;
 }
```

Static methods

- Uses static keyword
- Shared by all the objects in a class
- Called using classname eg. Integer.parseInt()

```
class Test{
static void getMessage(){
    System.out.print("static method");
 } }
```

- Call this method using classname

  Test.getMessage()

Example

```
class Test{
static int x,y =20;

static {
System.out.println("in static block");
      x=10;
}

static void getMessage(){
 System.out.println("in static method");
}
```

```
public static void main(String args[ ]){
      System.out.println(" in main");
     getMessage();
      System.out.println("Value "+(x+y));
 } }
```

same class so called directly

o/p:

in static block

in main

in static method

Value 30

What will be the output?

```
class Test{
static int x,y =20;

static {
System.out.println("in static block");
      x=10;
}

static void getMessage(){
 System.out.println("in static method");
}
}
```

o/p:

in static block

Exception (no main method found)

Can I have output without psvm?

- If there is static block,
  - the contents in the static block will be printed
  - then JVM throws Exception(No main method found)
- If there is no static block,
  - JVM throws Exception(No main method found) directly

Example for two class scenario

```
class Demo{
static int x,y =20;

static {
System.out.println("in static block");
    x=10;
}

static void getMessage(){
System.out.println("in static method");
}
}
```

```
class Test{
public static void main(String args[ ]){
 System.out.println(" in main");

    Demo.getMessage();
System.out.println("Value "+(Demo.x+ Demo.y));
 } }
```

o/p:

in main

in static block

in static method

Value 30

Different class so call with class name

Reminder

- instance variables/ methods

call in static method---------> use objects

call in non-static(normal) method--------> directly

- static variables/ methods

call in static method-----> use classname.method/variable name

call in non-static(normal) method--------> call directly

Static Import

To import the static members of one class in another class

syntax:

import *static* package.subpackage.classname.staticmember

Example

```
// imports only parseInt method of Integer
import  static java.lang.Integer.parseInt;

// imports all static members of Integer
import  static java.lang.Integer.*;
```

Example using static import

```
package com.training;
class Demo{
static int x,y =20;

static {
System.out.println(“in static block” );
     x=10;
}

static void getMessage(){
System.out.print(“in static method”);
}
```

```
package com.training;
import static com.training.Demo.getMessage;
import static com.training.Demo.*;

class Test
public static void main(String args[ ]){
      System.out.print (“ in main”);
     getMessage();
     System.out.print(“Value “+(Demo.x+Demo.y ));
     System.out.print(“Value “+(x+y));

 } }
```

Summary

- Static – an Overview
- Static variables
- Static block
- Static method
- Static Import

Thank You