

Java for beginners

Static members



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Agenda

- ① What is static?
- ② static variable
- ③ static method
- ④ Types of variables in Java
- ⑤ Default value
- ⑥ Practice

In C++, Static

- ① static local variable C/C++
- ② static member variable C++
- ③ static member function C++

Static

Static is a keyword

Static member means it belongs to the type (class) itself and not to the instances of that type.

Static Keyword can be used in java as

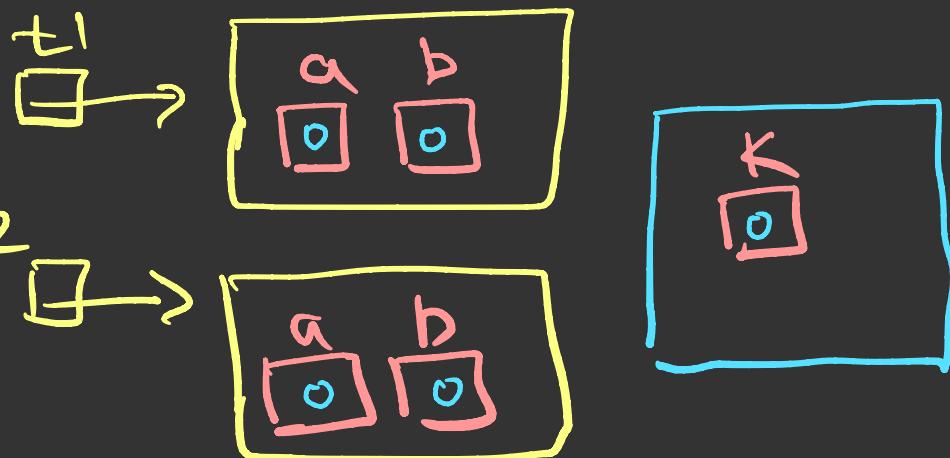
- static member variable or static variable
 - static methods
 - static blocks
 - static classes (nested class)
-
- No concept of static local variable in Java
 - Out classes can never be static

Static Variables

- Static variables are declared in class using static keyword.
- Static variables are by default initialized to its default value.
- static variable has a single copy for the whole class and does not depend on the objects.

```
class Example {  
    int x; instance  
variable  
    static int k;  
} static  
variable
```

```
class Test {  
    int a,b;  
    static int k;  
}
```



```
Test t1 = new Test();
```

```
Test t2 = new Test()
```

object can access static member of the class

classname.staticMember (prefer)

Object.staticMember

Static Methods

- Static methods are qualified with the keyword static while defining in the class.
- Static methods cannot access non static members of the class directly like instance methods.
- static methods can access static members of the same class
- static methods can be invoked using class name and dot operator.

Types of Variables

Instance variables

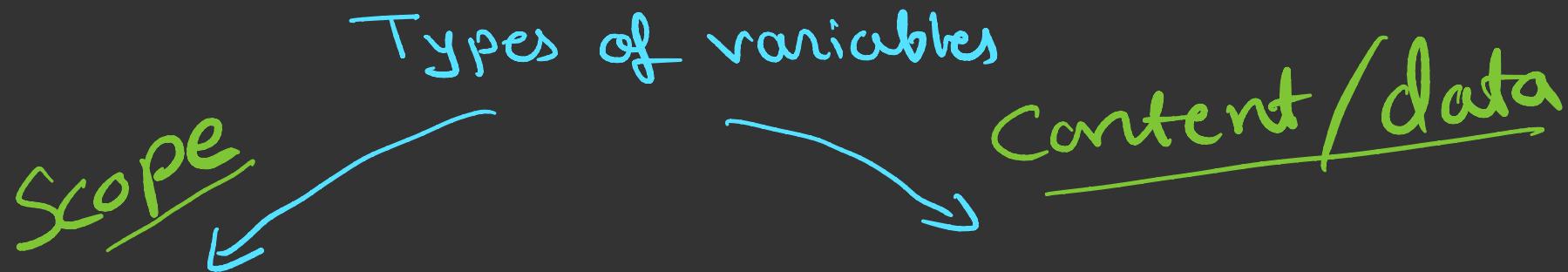
static variables

Local variables

~~Global variables~~

~~static local variables~~

Default Value



1. Instance variables
2. static variables
3. Local variables

value type variables (ordinary variable)
nullable type variables
(Reference variable)

Default value of Instance or static variables

1. value type variables 0
2. nullable type variables null

Local variables are blank by default.

No concept of garbage value

Find Output

```
public class Example {  
    private int y;  
    private static int z;  
    public static void main( String []args) {  
        int x;  
        System.out.println( "x=" + x);  
        System.out.println( "y=" + y);  
        System.out.println( "z=" + z);  
    }  
}
```

Calculate Area of a Circle

```
public class Example {  
    private int radius = 5;  
    float area ()  
    {  
        // calculate area here  
    }  
    public static void main (String [] args) {  
        // Print area here  
    }  
}
```

Calculate Area of a Circle

```
public class Example {  
    private int radius = 5;  
    float area ()  
    {  
        return 3.14f * radius * radius;  
    }  
    public static void main (String [] args) {  
        Example ex = new Example ();  
        float a = ex.area();  
        System.out.println ("Area = " + a);  
    }  
}
```