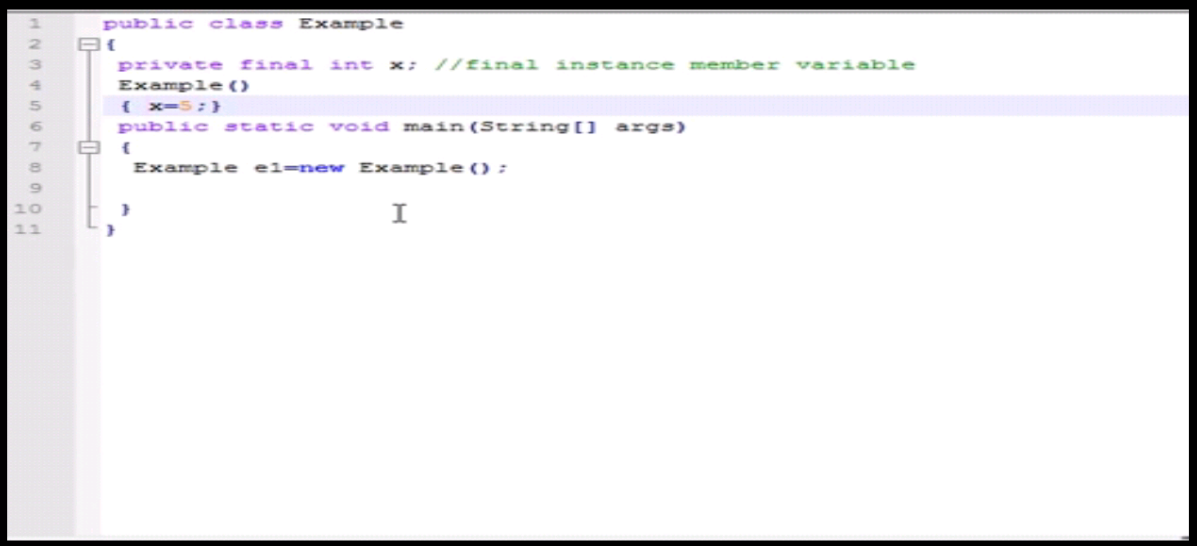
The final keyword

- **final** instance variable
- **final** static variable
- **final** local variable
- **final** class
- **final** methods

final instance variable

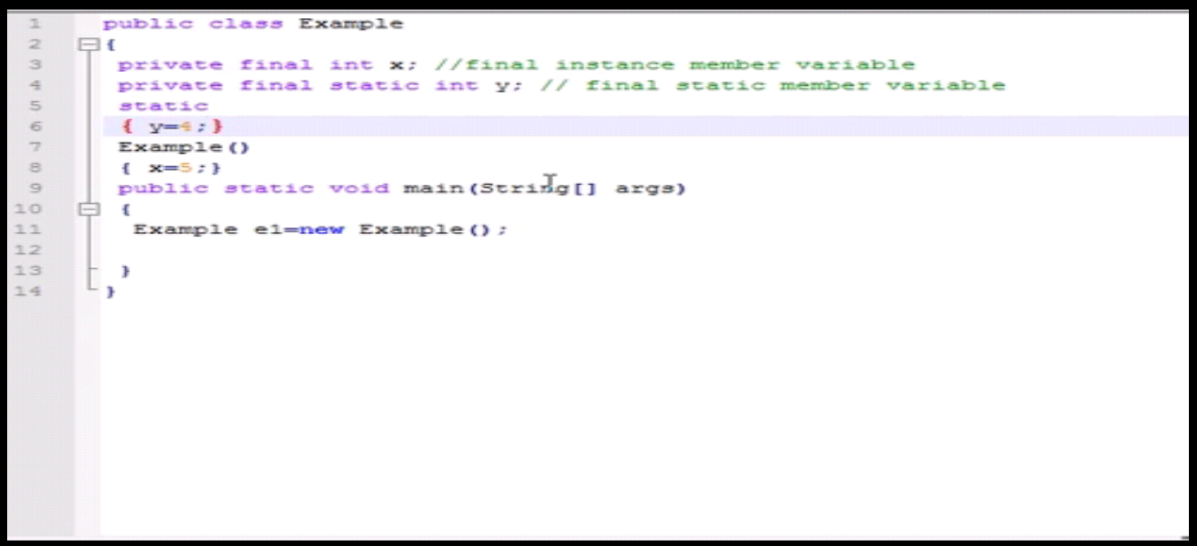
- A java variable can be declared using the keyword final. Then the final variable can be assigned only once.
- A variable that is declared as final and not initialized is called a blank final variable. A blank final variable forces either the constructors to initialize it or initialization block to do this job.



```
1  public class Example
2  {
3   private final int x; //final instance member variable
4   Example()
5   { x=5;}
6   public static void main(String[] args)
7   {
8    Example e1=new Example();
9
10  }
11 }
```

final static variable

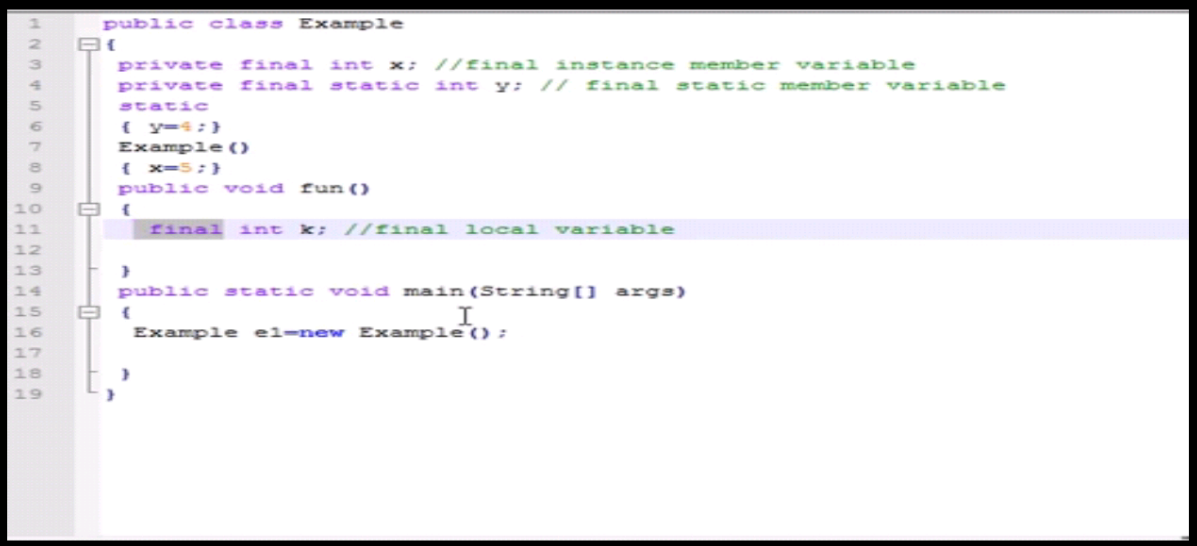
- Static member variable when qualified with final keyword, it becomes blank until initialized.
- Final static variable can be initialized during declaration or within the static block



```
1  public class Example
2  {
3   private final int x; //final instance member variable
4   private final static int y; // final static member variable
5   static
6   { y=4;}
7   Example()
8   { x=5;}
9   public static void main(String[] args)
10  {
11   Example e1=new Example();
12
13  }
14 }
```

final local variable

- Local variables that are final must be initialized before it's use, but you should remember this rule is applicable to non final local variables too.
- Once they are initialized, can not be altered.



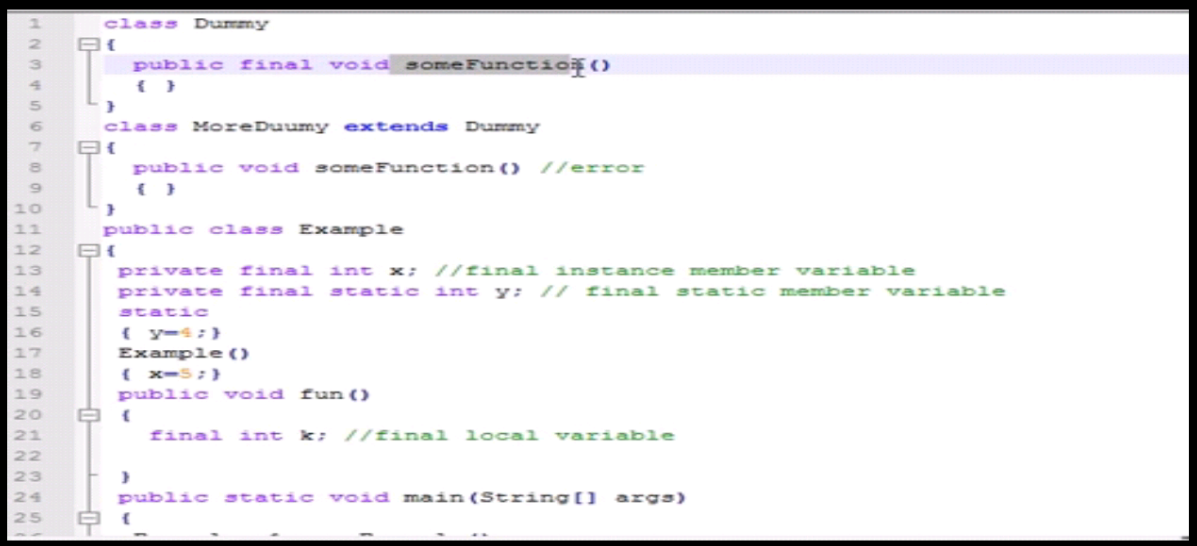
```
public class Example
{
 private final int x; //final instance member variable
 private final static int y; // final static member variable
 static
 { y=4;}
 Example()
 { x=5;}
 public void fun()
 {
   final int k; //final local variable

 }
 public static void main(String[] args)
 {
  Example e1=new Example();

 }
}
```

final class

- Java classes declared as final cannot be extended. Restricting inheritance!

final methods

- Methods declared as final cannot be overridden



```
class Dummy
{
  public final void someFunction()
  { }
}
class MoreDuumy extends Dummy
{
  public void someFunction() //error
  { }
}
public class Example
{
 private final int x; //final instance member variable
 private final static int y; // final static member variable
 static
 { y=4;}
 Example()
 { x=5;}
 public void fun()
 {
   final int k; //final local variable

 }
 public static void main(String[] args)
 {
```