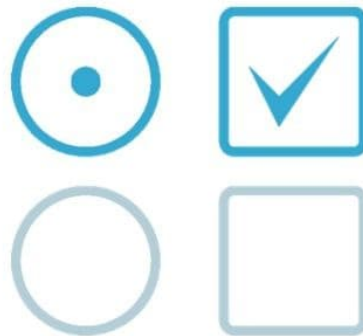


Inheritance

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HelloWorld [~/IdeaProjects/HelloWorld] - .../src/com/codewithmosh/UIControl.java [HelloWorld]

1: Project
Z: Structure
2: Favorites

Main.java × UIControl.java ×

```
1  
2  
3 public class UIControl {  
4     private boolean isEnabled = true;  
5  
6     public void enable() {  
7         isEnabled = true;  
8     }  
9  
10    public void disable() {  
11        isEnabled = false;  
12    }  
13 }
```

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m Maven

UIControl > disable()

1: Project

Z: Structure

2: Favorites

Main.java ×

UIControl.java ×

TextBox.java ×

```
2
3 public class TextBox extends UIControl {
4     private String text = "";
5
6     public void setText(String text) { this.text = text; }
7
8
9
10    public void clear() { text = ""; }
11
12    }
13
14
```

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Maven

TextBox

IntelliJ IDEA File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloWorld [~/IdeaProjects/HelloWorld] - .../src/com/codewithmosh/Main.java [HelloWorld]

1: Project

2: Favorites

Z: Structure

Main.java x UIControl.java x TextBox.java x

```
1 package com.codewithmosh;
2
3 public class Main {
4
5     public static void main(String[] args) {
6         var control = new TextBox();
7         control.
8         cont
9         System
10    }
11
12 }
13
```

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setText(String text) void

clear() void

disable() void

isEnabled() boolean

enable() void

equals(Object obj) boolean

hashCode() int

Main ▶ main()

The Object Class



Mosh Hamedani
codewithmosh.com

Main.java × UIControl.java × TextBox.java ×

```
1 package com.codewithmosh;
2
3 public class UIControl extends Object {
4     private boolean isEnabled = true;
5
6     public void enable() {
7         isEnabled = true;
8     }
9
10    public void disable() {
11        isEnabled = false;
12    }
13
14    public boolean isEnabled() {
```


1: Project

2: Structure

3: Favorites

Main.java x UIControl.java x TextBox.java x

```
1 package com.codewithmosh;
2
3 public class Main {
4
5     public static void main(String[] args) {
6         var obj = new Object();
7         obj.|
8     }
9 }
10
```

- getClass() Class<? extends Object>
- equals(Object obj) boolean
- hashCode() int
- toString() String
- notify() void
- notifyAll() void
- wait() void
- wait(long timeoutMillis) void
- wait(long timeoutMillis int na) void

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Constructors and Inheritance



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codewithmosh.com

Main.java x UIControl.java x TextBox.java x

```
1 package com.codewithmosh;
2
3 public class UIControl {
4     private boolean isEnabled = true;
5
6     public UIControl(boolean isEnabled) {
7         this.isEnabled = isEnabled;
8         System.out.println("UIControl");
9     }
10
11     public void enable() {
12         isEnabled = true;
13     }
14
```

Main.java × UIControl.java × TextBox.java ×

```
1 package com.codewithmosh;
2
3 public class TextBox extends UIControl {
4     private String text = "";
5
6     public TextBox() {
7         System.out.println("TextBox");
8     }
9
10    public void setText(String text) { this.text = text; }
13
14    public void clear() { text = ""; }
17 }
18
```

There is no default constructor available in 'com.codewithmosh.UIControl'

Main.java x UIControl.java x TextBox.java x

```
1 package com.codewithmosh;
2
3 public class TextBox extends UIControl {
4     private String text = "";
5
6     public TextBox() {
7         super(isEnabled: true);
8         System.out.println("TextBox");
9     }
10
11     public void setText(String text) { this.text
14
15     public void clear() { text = ""; }
18 }
```

Overriding Methods



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codewithmosh.com

Main.java × UIControl.java × TextBox.java ×

```
5
6 public TextBox() {
7     super( isEnabled: true);
8     System.out.println("TextBox");
9 }
10
11 @Override
12 public String toString() {
13     return text;
14 }
15
16 public void setText(String text) {
17     this.text = text;
18 }
```


Main.java ×

UIControl.java ×

TextBox.java ×

```
1 package com.codewithmosh;
2
3 public class Main {
4
5     public static void main(String[] args) {
6         var textBox = new TextBox();
7         textBox.setText("Hello World");
8         System.out.println(textBox.toString());
9     }
10 }
11
```

Finished, saving caches...

Comparing Objects



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codewithmosh.com

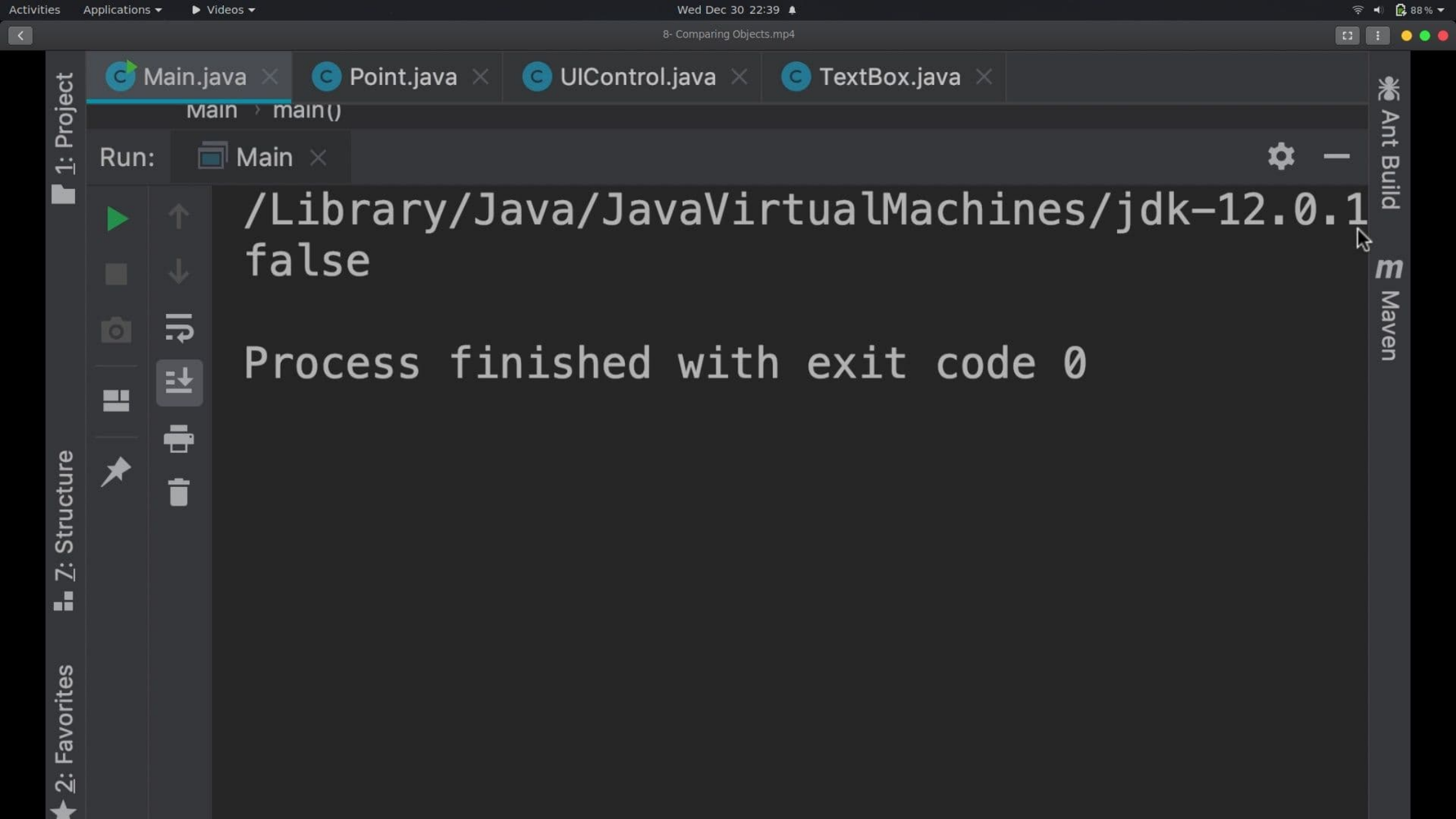
Main.java ×

Point.java ×

UIControl.java ×

TextBox.java ×

```
1 package com.codewithmosh;
2
3 public class Main {
4
5     public static void main(String[] args) {
6         var point1 = new Point(x: 1, y: 2);
7         var point2 = new Point(x: 1, y: 2);
8         System.out.println(point1.equals(point2));
9     }
10 }
11
```



1: Project

Z: Structure

2: Favorites

Main.java x Point.java x UIControl.java x TextBox.java x

```
9      this.y = y,  
10     }  
11  
12     @Override  
13     public boolean equals(Object obj) {  
14         if (!(obj instanceof Point))  
15             return false;  
16  
17         var other = (Point) obj;  
18         return other.x == x && other.y == y;  
19     }  
20 }  
21
```

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Main.java × Point.java × UIControl.java × TextBox.java ×

```
1 package com.codewithmosh;
2
3 public class Main {
4
5     public static void main(String[] args) {
6         var point1 = new Point(x: 1, y: 2);
7         var point2 = new Point(x: 1, y: 2);
8         System.out.println(point1.equals(point1));
9     }
10 }
11
```


1: Project

Z: Structure

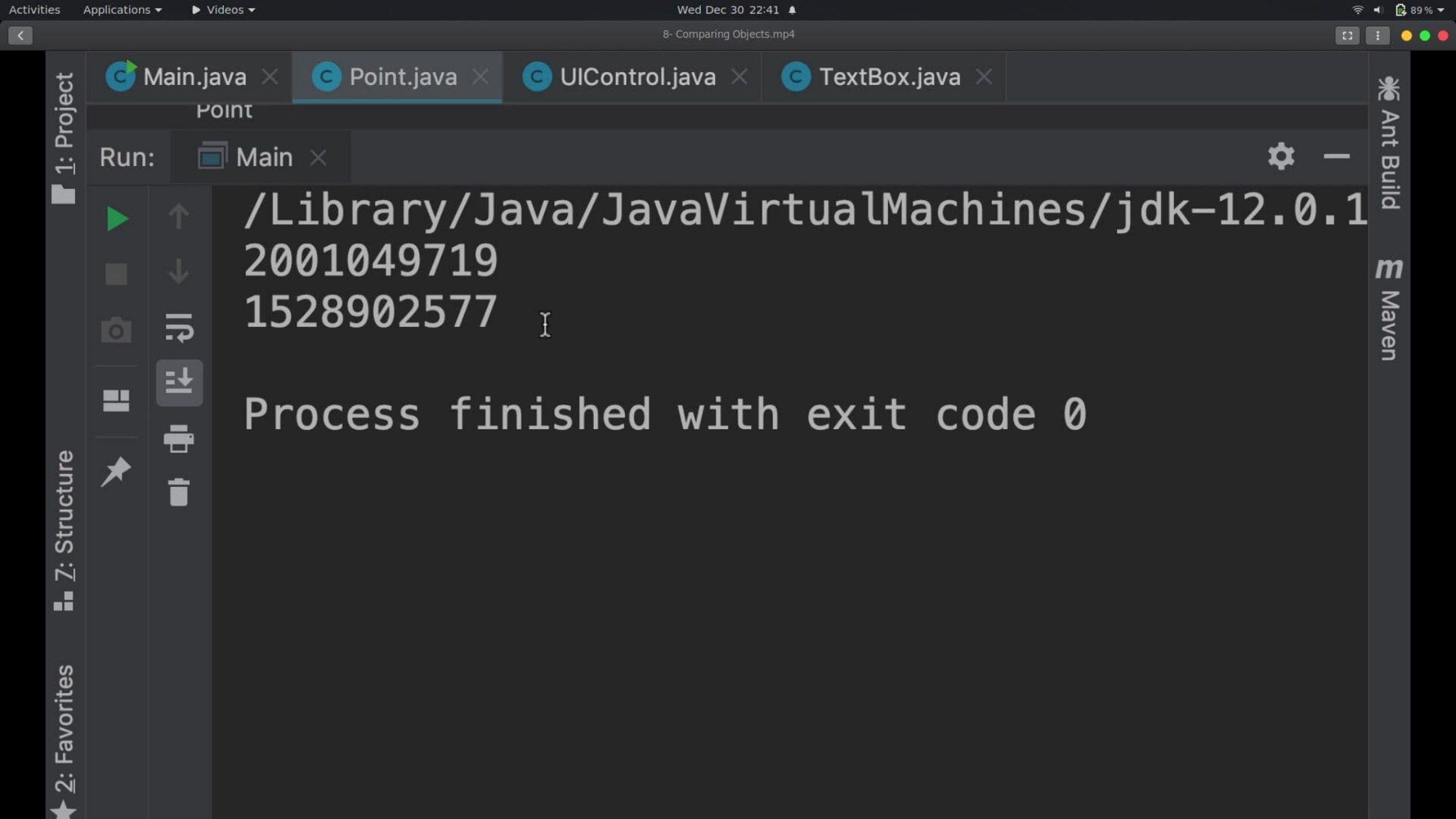
2: Favorites

```
Main.java x Point.java x UIControl.java x TextBox.java x
10 }
11
12 @Override
13 public boolean equals(Object obj) {
14     if (this == obj)
15         return true;
16
17     if (!(obj instanceof Point))
18         return false;
19
20     var other = (Point) obj;
21     return other.x == x && other.y == y;
22 }
```

Ant Build Maven

Main.java × Point.java × UIControl.java × TextBox.java ×

```
1 package com.codewithmosh;
2
3 public class Main {
4
5     public static void main(String[] args) {
6         var point1 = new Point(x:1, y:2);
7         var point2 = new Point(x:1, y:2);
8         System.out.println(point1.hashCode());
9         System.out.println(point2.hashCode());
10    }
11 }
12
```



Main.java × Point.java × UIControl.java × TextBox.java ×

Point

Run: Main ×



```
/Library/Java/JavaVirtualMachines/jdk-12.0.1
2001049719
1528902577
```

```
Process finished with exit code 0
```

1: Project

2: Structure

3: Favorites

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Maven

1: Project

2: Structure

3: Favorites

Main.java × Point.java × UIControl.java × TextBox.java ×

```
19 if (!(obj instanceof Point))
20     return false;
21
22 var other = (Point) obj;
23 return other.x == x && other.y == y;
24 }
25
26 @Override
27 public int hashCode() {
28     return Objects.hash(x, y);
29 }
30 }
31
```

Ant Build Maven

