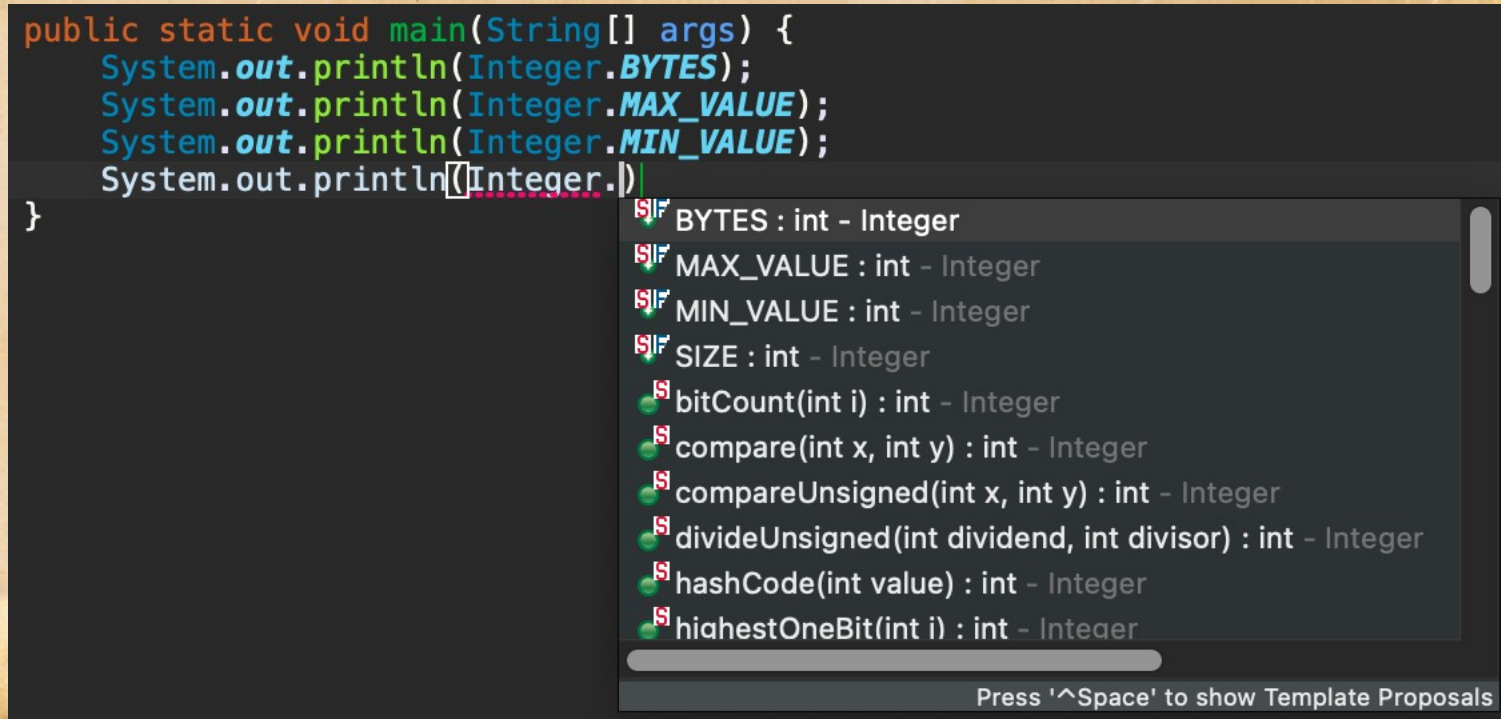
Using Classes

Integer Class

Lecture Contents

- The `Integer` Class
  - `Integer` Constants
  - `Integer` Methods

`Integer` Constants



Integer Constants

```
public static void main(String[] args) {
      System.out.println(Integer.BYTES); // size in bytes
      System.out.println(Integer.MAX_VALUE);
      System.out.println(Integer.MIN_VALUE);
      System.out.println(Integer.SIZE);  // size in bits
   }
```

```
4
2147483647
-2147483648
32
```

Integer Constants

```
int i;

System.out.println("Testing 'Integer.MAX_VALUE'");
i = Integer.MAX_VALUE;
System.out.println(i);
i += 1;
System.out.println(i);

System.out.println("Testing 'Integer.MIN_VALUE'");
i = Integer.MIN_VALUE;
System.out.println(i);
i -= 1;
System.out.println(i);
```

```
Testing 'Integer.MAX_VALUE'
2147483647
      ?
Testing 'Integer.MIN_VALUE'
-2147483648
      ?
```

Integer Constants

```
int i;

System.out.println("Testing 'Integer.MAX_VALUE'");
i = Integer.MAX_VALUE;
System.out.println(i);
i += 1;
System.out.println(i);

System.out.println("Testing 'Integer.MIN_VALUE'");
i = Integer.MIN_VALUE;
System.out.println(i);
i -= 1;
System.out.println(i);
```

```
Testing 'Integer.MAX_VALUE'
2147483647
-2147483648
Testing 'Integer.MIN_VALUE'
-2147483648
2147483647
```

Integer Methods

- `Integer(int value); // constructor`
- `Integer.intValue(); // returns int`

Integer Methods

- When we used strings...

```
public static void main(String[] args) {
   String s1 = "Hello ";
   String s2 = "World!";
   System.out.println(s1 + s2);
}
```

```
Hello World!
```

Integer Methods

- When we used strings… we created new string objects

```
public static void main(String[] args) {
   String s1 = "Hello ";
   String s2 = new String("World!");
   System.out.println(s1 + s2);
}
```

```
Hello World!
```

Integer Methods

- When we use `Integer...` we must create `new Integer` objects

```
public static void main(String[] args) {
   Integer i = new Integer(5);
   System.out.println(i);
}
```

```
5
```

Integer Methods

- Object are different than primitives

```
public static void main(String[] args) {
   int i = 5;
   String s = i;
   System.out.println(s);
}
```

Integer Methods

- Object are different from primitives

```
public static void main(String[] args) {
   int i = 5;
   String s = i;
   System.out.println(s);
}
```

```
ERROR:
Type mismatch: cannot convert from int
to String
```

Integer Methods

- Object are different from primitives

```
public static void main(String[] args) {
   int i = 5;
   String s = (String) i;
   System.out.println(s);
}
```

Integer Methods

- Object are different from primitives

```
public static void main(String[] args) {
   int i = 5;
   String s = (String) i;
   System.out.println(s);
}
```

```
ERROR:
Cannot cast from int to String
```

Integer Methods

- Object are different from primitives

```
public static void main(String[] args) {
   Integer i = new Integer(5);
   String s = i.toString();
   System.out.println(s);
}
```

```
5
```

Integer Class

- `Integer.MAX_VALUE`
- `Integer.MIN_VALUE`
- `Integer(int value) // returns Integer`
- `Integer.intValue() // returns int`

Integer Class	
`Integer(int value)`	Constructs a new `Integer` object that represents the specified `int` value
`Integer.MIN_VALUE`	The minimum value represented by an `int` or `Integer`
`Integer.MAX_VALUE`	The maximum value represented by an `int` or `Integer`
`int intValue()`	Returns the value of this `Integer` as an `int`

Using Classes

Integer Class