

if Statements &&  
boolean Primitive  
type

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What if you only wanted  
some of your code to run?

We need to be able to select  
blocks of code to run  
conditionally

# Require 2 ingredients

- 1) boolean primitive type
- 2) if statement structure

# boolean Primitive type

## Review primitives

int tom;

double henry;

# boolean Primitive type

A third (and final) primitive type: **boolean**

```
boolean jack;
```

**boolean variables are either equal  
to true or false**

# boolean Primitive type

## Review

int primitive types can be compared using comparison operators:

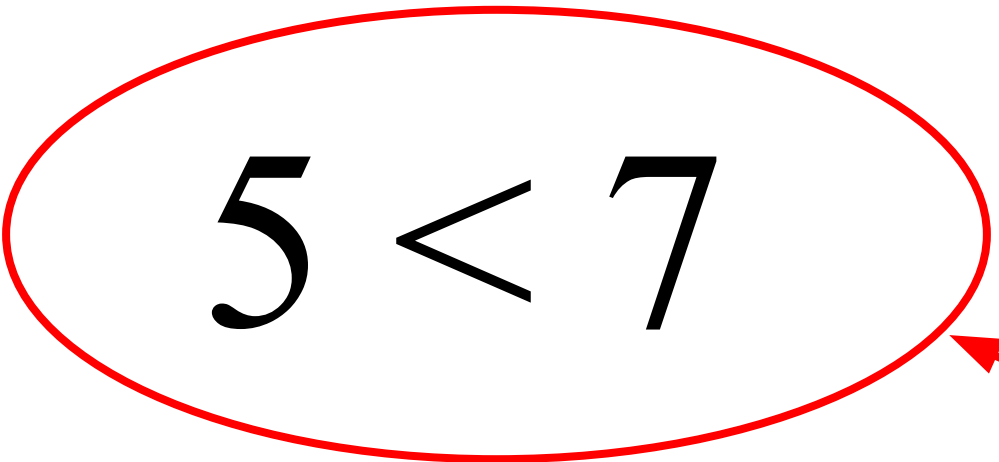
< less than

> greater than

== equal to (note, 2 equal signs)

# boolean Primitive type

Review ints



$5 < 7$



boolean  
expression

# boolean Primitive type

combine ideas:

```
boolean jane;  
jane = (4 == 5);  
System.out.println(jane);
```



# Require 2 ingredients

- 1) boolean primitive type
- 2) if statement structure

# if Statements - Syntax

```
if(boolean)
```

```
{
```

```
    // statements execute only
```

```
    // if boolean is true
```

```
}
```

```
// statement execute always
```

# if Statements - Syntax

```
int z = 16;
```

```
int y = 5;
```

```
boolean x = 5 > 16;
```

```
if(x)
```

```
{
```

```
    System.out.println(z);
```

```
}
```

# if Statements - Syntax

or equivalently...

```
if(5 > 16)
{
    System.out.println(z);
}
```

# boolean expressions

`==` is-equal-to-operator

`!=` is-not-equal-to-operator

`<` less-than-operator

`>` greater-than-operator

`<=` less-than-or-equal-to-operator

`>=` greater-than-or-equal-to-operator

,

# If Statements - Lab

- Write a program that has 2 int variables
- Initialize these variables some int value (your choice)
- Write a message out to the screen if the two values are different
- Verify your code works by trying different int values