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# Java Variables

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## Java Variables

Variables are containers for storing data values.

In Java, there are different **types** of variables, for example:

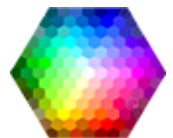
- **String** - stores text, such as "Hello". String values are surrounded by double quotes
- **int** - stores integers (whole numbers), without decimals, such as 123 or -123
- **float** - stores floating point numbers, with decimals, such as 19.99 or -19.99
- **char** - stores single characters, such as 'a' or 'B'. Char values are surrounded by single quotes
- **boolean** - stores values with two states: true or false

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To create a variable, you must specify the type and assign it a value:

### Syntax

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```
type variableName = value;
```

Where *type* is one of Java's types (such as `int` or `String`), and *variableName* is the name of the variable (such as `x` or `name`). The **equal sign** is used to assign values to the variable.

To create a variable that should store text, look at the following example:

### Example

Create a variable called **name** of type `String` and assign it the value `"John"`. Then we use `println()` to print the **name** variable:

```
String name = "John";  
System.out.println(name);
```

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### Example

Create a variable called **myNum** of type **int** and assign it the value **15**:

```
int myNum = 15;  
System.out.println(myNum);
```

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You can also declare a variable without assigning the value, and assign the value later:

### Example

```
int myNum;  
myNum = 15;  
System.out.println(myNum);
```

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Note that if you assign a new value to an existing variable, it will overwrite the previous value:



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```
int myNum = 15;
myNum = 20; // myNum is now 20
System.out.println(myNum);
```

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## Final Variables

If you don't want others (or yourself) to overwrite existing values, use the **final** keyword (this will declare the variable as "final" or "constant", which means unchangeable and read-only):

### Example

```
final int myNum = 15;
myNum = 20; // will generate an error: cannot assign a value to a final v
```

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A demonstration of how to declare variables of other types:

### Example

```
int myNum = 5;
float myFloatNum = 5.99f;
char myLetter = 'D';
boolean myBool = true;
String myText = "Hello";
```

You will learn more about [data types](#) in the next section.

## Exercise ?

True or False:

To create a variable in Java, you must specify the type first.

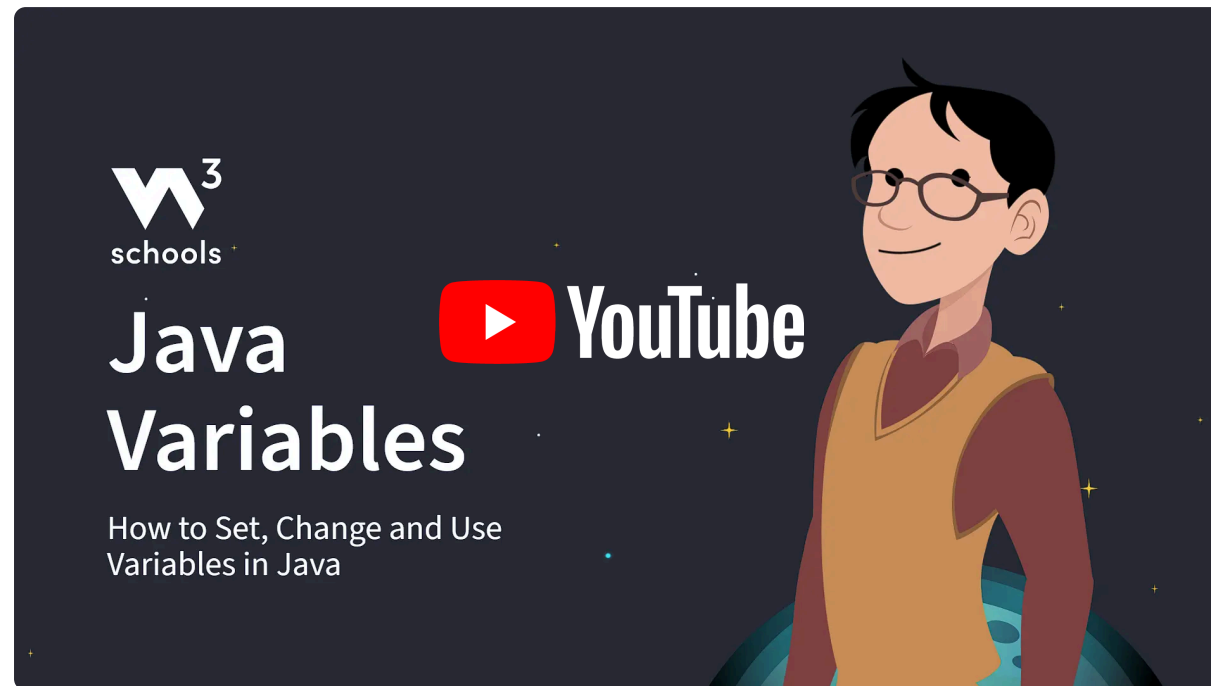
☒ True

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