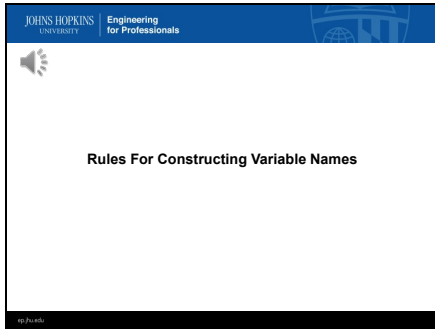
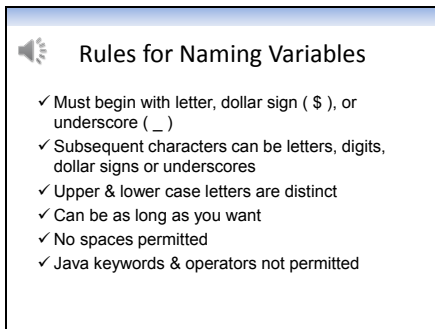


1



In this lecture you will learn the rules for naming Java program variables.

2



Now that you have learned how to declare and initialize local variables, let's talk about Java's rules for naming variables.

A variable name in Java must begin with a letter, a dollar sign, or an underscore.

Subsequent characters in the variable name can be letters, digits, dollar signs or underscores.

Upper and lower case letters are distinct, so a variable named upper case 'X' is different than one named lower case 'x'.

A variable name can be as long as you want it to be, and this is very helpful. When you name a variable it is a good idea to make the name meaningful...so that the name tells you something about what the variable represents.

There are some restrictions on variable names. No spaces are permitted in the name. It needs to be a single word or string of text.

And finally, Java language keywords and operators can't be used. A list of Java keywords and operators are included in the notes to this lecture.

3

Sample Variable Names	
Valid Names	Invalid Names
Sum	Sum&Value
sum	error flag
error_flag	2_by_4
J2x4	int
_sysvalue	dat+x
\$var	

Let's take a look at some examples. We'll start with examples of valid names first.

The name 'Sum' with an upper case 'S' is perfectly valid. The name 'sum' with a lower case 's' is also valid.

If these two variables were declared in the same method they would be two separate variables because upper and lower case letters are distinct. In practice, however, it wouldn't be such a good idea to use names which are so similar...it would be confusing and could lead to inadvertent errors.

'error_flag' is also a valid name, because underscores are allowed.

'J2X4' is also valid. The first character is a letter, and numbers are allowable as long as they're not the first character of the name.

'_sysvalue' and '\$var' are valid because the first character in a variable name can be an underscore or a dollar sign.

Now let's take a look at some invalid variable names.

'Sum&Value' is invalid because of the ampersand.


'error flag' is two words...a name must be a single word.

'2_by_4' is invalid because the first character of the name is a number.

'int' is a keyword for the integer data type.

And finally, 'dat+x' is invalid because the '+' is a Java addition operator.

4

 Use Meaningful Variable Names

Meaningful	Not Meaningful
firstName	fN
lastName	lN
streetAddress	sAdr
zipCode	Zc
totalPrice	tP

When you write programs in Java, or any other language, it is a good practice to give meaningful names to your variables. This is an important practice used by professional programmers.

Let's take a look at some examples of meaningful variable names. Names like `firstName`, `lastName`, `streetAddress`, `zipCode`, and `totalPrice` are meaningful names.

The names alone give you a clear idea of what the variables represent. This can be very helpful in making it easier to understand your program, especially if you put it aside for a few days and then come back to continue working on it. Meaningful variable names are also very helpful when someone other than yourself, perhaps your instructor, needs to read your programs.

Compare these not so meaningful variable names to the first set. It's pretty easy to see how difficult it is to tell from the variable name what the variable represents.

You may have noticed that I began each variable name with a lower case letter. This is a common convention that is used in the professional Java programming world. Java compilers don't care about this...the compiler's only concern is that a name follow the rules, but it is a practice that has been adopted by professional Java programmers...and you will see this convention used frequently throughout the course.