Transcript: break-continue

>> Let's review the break and continue statement. A break statement in a loop immediately exits the loop. Whereas a continue statement will skip the rest of the code in that particular iteration and then attempt to do the next iteration of the loop. Usually, we find a break and a continue statement inside an if statement within the loop.

In other words, there's some condition that needs to be true to break out, or continue. Now let's look at some examples. We've seen these before and, with respect to the while loop, but let's take a quick look at them here. So this was our example, where we were gonna key in, or the user was gonna, going to enter y or n.

And we had a maximum number of tries, and here we've got a break here if if we exceed that maximum number. I'll just run this in the Canvas, and we'll watch the break, in action if you will. So our maximum number is 3, that was set up here, MAX_TRIES.

So I'm gonna launch this, and we'll just watch it go here. So we're waiting for input, and I'm going to enter, I'll enter a one. For try number one, it's looking for a y or n. And that was wrong, so it's asking for another one, I'll enter a z this time.

That turned out to be wrong. We didn't break out of the loop, though, we're still in the loop. I'm gonna hit pause, and then we'll single step through this time. So I'll key in, maybe x, And let single step. So we've got our x in and it wants to know if this is valid.

Is valid is false, we can see over here. So we go through here, and notice number of tries is 2. Max tries is of course is 3, but notice in the expression we've got ++tries. So this is gonna increment tries, prior to checking to see if it's equal to MAX_TRIES.

So when I step here, you'll see that tries goes up. And so it did equal MAX_TRIES and we're inside here, and we're gonna print out, too many attempts aborting. And then we're gonna break out of the loop. If we didn't break out well, we'll break out of the loop and see where we go next, go down to the if statement.

Now if tries was less than MAX_TRIES, we would go ahead and print out, more information about this selection of yes for no, y for no. But in this case it's less than, rather it's not less than, so we're just going to go ahead and abort there. All right, let's look at our next example.

In this case we're looking for, we're searching for the last h and how much wood could a woodchuck chuck if a woodchuck could chuck wood. So we'll run this in the Canvas and, and, we'll just look at the, array that we've got in. OK, we'll look at this.

This is gonna let us look at the, search array as we go through here. All right, so, we're searching for h. We're gonna start, at that index layer. Let's cancel that. Let's see if we can play the Canvas here. Yes, we're not seeing the index because it's back here at the end, there it comes and we just hit u, and broke out.

Let's run this again. We'll end it and run it in the Canvas. Step, So here's our array, in fact, I'll go ahead and play the Canvas and then we'll jump to the end of it here. So there we are, we're, we're going through the loop here looking for the u, and as soon as we hit 61 u, we, we go through here and we break out.

So we broke out, found it, and down here we printed. We're about to print or did we print, there it was right there. We printed found last h at index 60. So let's look at the last example. It's a continue and a for here, in this case, we're looking for all of the u's and we're starting at one.

And we're gonna go up through, max here and max is set to the search string.length. We'll play this in the Canvas too. This'll, run a little longer, but we'll speed it up as we go. So I'll hit play. And here we are looking for, u's. If it's not, if it's not a u, we just continue.

We just found a u. Let's see, we're about to find another one, where's our next one. Our next one is coming at, 16 there, in could. Notice we're just continuing until we hit that u. And when we hit the u, we actually go down and process it. In other words, just add one to our number of u's.

And this is gonna go on for a while, so I'm gonna speed this up. We're zipping through there. And looking for all the u's. You should see it come through here and find 61 right there, I just found it, and we ended. So down here, we found seven u's.

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So, these three examples just show ways to use the continue statement. And the break, to get out of the loop we continue, actually, goes back and iterates again. Notice the little arrow for the continue just draws, goes to the edge of the loop, indicating you go out. Whereas a break, actually goes through the loop indicating you're leaving the loop immediately.