**Solution: Arithmetic average**

(upbeat music) - [Instructor] To create my solution to the arithmetic average challenge, I'll begin with a blank VI. First, I'll add a numeric control to the front panel by right-clicking to bring up the controls palette, going to the numeric section, and choosing Numeric Control. And I'll change its name to Input 1. Next, I'll select that control, and while I hold the Control key, I'll drag it to make a copy. And I'll do that one more time to make a third input. I'll also need a numeric indicator, so I'll add that from the controls palette in the numeric section, and I'll change its name to Output. Now, while I'm still focused on the front panel, I'll go ahead and attach these controls and indicators to the connector pane. If I right-click on the connector pane, I can go down to this option for Patterns, and as you can see here, LabVIEW gives me an assortment of layouts for the connector terminals to choose from. I'll select this pattern which has three terminals on the left side and one on the right side, because it best matches the inputs and outputs for this VI. Now I'll connect each of the terminals on the left side to my three controls by left-clicking on them, and then left-clicking on the control. And then I'll link the big right side terminal to the output indicator. Next, for the icon, I'll double-click on it to open the icon editor, and then I'll double-click on the fill box to give me a blank slate. For this example I'll keep things simple. I'll just give it a little text on the icon text tab, and I'll type AVG3, so I know this average is three numbers together. Now, I'll turn my attention over to the block diagram. First, I'll need to sum the three inputs together. I'll right-click to open the Functions palette, and go the numeric section. I could use two of these simple addition functions connected together to do that, or I can use a single, compound arithmetic block to add them all at once. I'll select compound arithmetic, place that, and then click and drag on the bottom to expand it to have three terminals. And I'll connect each of my input controls to one of those terminals. Next, I'll need to divide the output from that block by three, and rather than navigating the Functions palettes menus, I'll press Control + Space to open what's called the Quick Drop search, type 'divide', and then press Enter. And that gives me a divide block. I'll wire the top input of the division block to the output from the addition. So I'll right-click on the bottom terminal, select Create Constant, and give that a value of three. Now I can wire the output from the division to the output indicator. This looks a bit sloppy, so I'll click the Block Diagram Cleanup button to tidy things up. And that's my solution. This VI is ready to save and be used elsewhere as a sub-VI. I can test it on its own by clicking on the Run Continuously button and then entering values into the three input controls. Let's say 42 11 and 64. I can see that the average of those three numbers is 39.