

## Video: If Construct (2:21 min)

### MATLAB Code (0:00):

The if construct allows you to actively ask yes or no questions and do one thing if the answer is yes and another thing if the answer is no. Let's look at an example. I want to output a message if the price is too expensive, say over \$100. Previously I have defined a variable called price and put a value into it. In this MATLAB compares price to \$100 which is the yes or no answer im asking. This question is called a conditional. If the condition is true then the code inside the if end statement executes, if not MATLAB goes to the end statement. Now let me set a price equal to \$150 and run this code. See the output in the command window? Now let me set the price to \$60 and do it again. No output because the condition is not true. This example only does something if the answer is yes. Now let's add some code to do something else when it's not true.

### Else Statement (1:03):

I add the following code which is only executed if the above statement is false, notice it has to stay inside the else statement. Let me set the price to \$125 and run it to make sure nothing has changed, no change. Now let me set the price to \$60 and see what happens. The message inside the window tells me that the else statement was executed. You can check for more conditionals by using the else if statement. Let's be even better shoppers and discriminate against two costs and a good deal. Let's say the expected price is between \$75 and \$100 and anything less the \$75 is a good deal. I add the following code to check for the price. In the new code that I added I'm checking to see if the price is greater than \$75 this new condition only gets checked if the above condition is false, so that we know the price is less than \$100. So the end result is that the next bit of code will be executed if both the price is less than \$100 and greater than \$75. The else statement now reflects prices that are less than \$75 which makes it a better deal. Notice the else statement doesn't have a condition to check, so it executes when all previous conditions are false. To provide more options you can provide any logical operators as a condition to include or not statements.