Our First IF Statement

The IF Statement

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<tr><td colspan="2">The IF Statement</td></tr>
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```
if (condition):
        do some stuff
else:
        do some other stuff
```
</td><td>

[this is called the "consequent"]

[this is called the "alternative"]
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We've mentioned the "condition" already, and it is worth emphasising that the condition has to be something that is either "True" or "False" (a Boolean), so for example, is today Monday will either be true or false. If the condition evaluates to "True" then the *consequent* statements are run, if it evaluates to "False" then the *alternative* statements are run.

It is worth remembering that the "if" and the "else:" lines are at the same level of indentation, and that both the *consequent* and *alternative* statements are one tab (four spaces) in from those.

Our First IF Program

Below is our first program with an IF Statement. It works as follows, we create a variable called X, and set it to be the number 5, then we check if X is greater than 10, and if it is, we print out the *consequent* phrase after the condition, and if it isn't we print out the *alternative* phrase after the "else:".

Sample IF Statement

```
X = 5
if (X > 10):
        print("X is bigger than 10")
else:
        print("X is less than or equals 10")
```

We note that the condition is "X > 10", and it is either True or False, so either the variable in X is either great than 10 or it isn't. If it is greater than 10, it will print out the phrase "X is bigger than 10", and if it is less than or equals to 10, it will print out the phrase:

```
X is less than or equals 10
```

In this case X is less than 10 so it will print out the phrase after the "else:". To test this program write it into IDLE, run it, and check the result. Then change the first line of the program and replace with number 5 with the number 15 and run the program again, then try 10, then try 0, and try -10, to check this all makes sense.

Please note again the indentations, the IF statement is at the same level of indentation program code before that statement, as is the "else:", but the *consequent* and *alternative* print statements go in by one tab of indentation.