

## Using the WHILE Statement

### Repeating Commands

Almost every program we write will require it to repeat certain sections of the code, so for example, if the program needs to print out the first one hundred numbers, i.e. 1, 2, 3, 4, 5, ... 100, we could do it with one hundred print statements, but that would be a very time consuming process. Another simple example is a program that opens a text file and searches that file one line at a time for a particular phrase. In Python, one way to give the programmers the ability to repeat commands is to use the WHILE statement (or WHILE loop), so, for example if we were searching for someone's name in a phonebook:

```
while (the current name isn't the one we are looking for):  
    check the next name
```

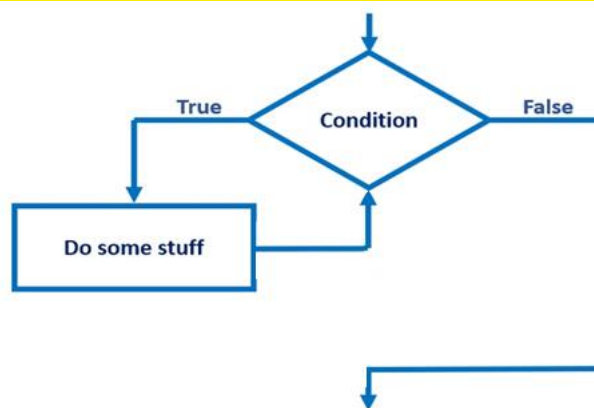
So, as we can see the WHILE statement has a *condition* like the IF statement, except that the instruction(s) inside the WHILE statement will keep being repeated ("keep looping") until the condition is found to be false.

### The WHILE Statement

```
while (condition) :  
    do some stuff
```

Or as a picture, we can show the WHILE Statement, or WHILE loop, like the diagram below, where the statement starts with a "Condition" and if the condition is true it goes to "Do some stuff", and after it is finished, it returns to the condition and keeps checking that until the condition is found to be false, and then it skips onto the next statement:

### The WHILE Statement as a Flow Chart



The diagram above is called a *Flow Chart*.