

**University of Hull**  
**Department of Computer Science**

**Wrestling with Python – Week 2**  
**Working With Methods**

Vsn. 1.0 Rob Miles 2014

## Introduction

Welcome to our Python sessions.

Please follow the instructions carefully. You need to enter your programs exactly as they are written, otherwise they will do the wrong thing, or nothing at all.

In this session you will explore the use of methods in your programs.



This indicates an activity you should perform in at this point in the text. You may be given precise instructions, or you may have to work something out for yourself.

## Practical Break 1: Making a Doubling method

I want a method that will accept a number and then return a value which is double that number. The method will be called double. I should be able to use it like this:

```
x = double(4)
print(x)
```

This program should print the value 8.



Before you go any further; perform the following:

1. Start IDLE.
2. Open a new editing window.
3. Create a method using def, and then fill in the method body. Take a look at the methods in the slides (I suggest the method sum might provide some inspiration).

Test your method with the above code and see if it prints 8.

## Practical Break 2: Reading Numbers

A lot of the programs that we have written have to read numbers from the user. Up until now we have just copied the code each time we want to read a number, but there is a better way to do this, which is to write a number reading method and just call that each time the program needs to get a value from the user. This would make the program shorter and easier to maintain, because if we find a problem with the number reading code we just have to fix it once, and then it is fixed for every number read operation.

### *Using a ReadNumber method*

We want a number fetching method that will display a prompt message and perform validation to make sure that the value supplied is not too large or too small. This is how it will be used in the Cinema Entry program

```
FilmNo = ReadNumber ("Enter film number : ", 1, 6)
```

The method will repeatedly read numbers from the user of the program until they enter a value which is in the range 1-6. We could use a slightly different call to get the age of the person going to see the film

```
Age = ReadNumber ("Enter your age : ", 3, 100)
```

This time the method would display a different prompt and repeatedly ask for values until one was returned in the range 3-100.

### ***The definition of the ReadNumber method***

The method has three parameters, that we give names in the method definition:

```
def ReadNumber (prompt, lowValue, highValue):  
    return 1
```

This is not the completed method, it returns 1 every time it is called, but this should show you what the method looks like.



Before you go any further; perform the following:

1. Open your most recent Cricket Scores program.
2. Add a definition for the ReadNumber method above.
3. Fill in the method so that it reads numbers in. Note that the method will have to contain a loop that makes it repeatedly read values while they are invalid. Note that you can re-use a lot of the code that you wrote last time, you just have to put it inside a method.
4. Change the Cricket scores (and potato grader if you wrote it) program so that it uses the new number reading method.

Rob Miles

February 2014