

Computing for mathematics handout 2 - Conditional Statements, flow control and functions

Lecturer: Vince Knight

Office: M1.30

email: knightva@cf.ac.uk

Office hours: Thursday 1300-1500

What you have learnt this week:

- Variables, variables types etc...
- What we can do to numeric variables;
- What we can do to strings;
- If statements;
- Loops (for and while);
- Functions;
- Comments.

Saving files

When you save a python script make sure to include the .py extension. This ensures that IDLE will be able to open it.

Indentation

Indentation is important in Python.

```
if BOOLEAN:  # Check if BOOLEAN is true or false
    then do everything in this indented block
    ...
    ...
    ...
    up until the last indent!
else:  # If BOOLEAN is false
    then do everything in THIS indented block
    ...
    ...
    ...
```

Assignment

In question 21 you used a very clever aspect of Python called ‘simultaneous assignment’. This ensured that a and b changed value at the same time.

To do this without simultaneous assignment we would need a temporary variable:

```
temp = a
a = b
b = temp + b
```

Documentation

Commenting is extremely important. You need to stick to the conventions described in questions 22, 23 and 24 of the first lab sheet.

Remember to describe functions like this:

```
def somefunction():  
    """  
    Describe in a sentence or two what your function does  
  
    Arguments: Describe what variables must be passed to the function  
  
    Outputs: Describe what outputs will be returned by the function  
    """  
    Then start the code... # Include in line comments along the way.
```

What you should do next:

- **Get started on the second sheet!**
- To make the best use of the lab sessions turn up having finished your sheets;
- If anything is still unclear please come and see me during office hours.