# Exercise 2 – Fundamental Variables

## Objective

To experiment with some of the basic variable types within Python and some of their operations.

## Questions

1. This exercise carries out some basic operations on variables.
2. Create a new script called ex2.py
3. Create two variables, one containing your first name and another containing your last name. Display them using **print**.
4. Now transfer these variable values into a list and display the list.
5. Take the variables and now store the values in a dictionary, using keys 'first' and 'last'. Display the dictionary values.

…and execute the script ex2.py.

1. Now we’ll try some object methods. Create a Python script (call it ex2\_2.py if you like) with the following line:

var = input("Please enter a value: ")

This is an easy way of outputting a prompt to the console and getting a reply. The variable **var** is a reference to that reply, which is a *string*.

Now print the following:

a) The value of **var** as upper case.

b) The number of characters in **var** (this does not require a method).

c) Does it contain numeric characters? (try the **isdecimal()** method).

**If time allows…**

1. Create 2 variables:

a = 6

b = 6

1. Write some code to check if a is the same value as b (respond with a bool)
2. Why do you think it came out this way?
3. Write the code in another way to get the same result.
4. Try the following code:

**print(hex(id(a) ) )**

**print(hex(id(b) ) )**

What do you notice about the returned memory addresses – can you think why python might do this?

## Solutions

**Question 1**

# Create two variables, one containing your first name.

**first = 'Fred'**

# And another containing your last name.

**last = 'Bloggs'**

# Display them using print.

**print(first, last)**

# Now transfer these variable values into a list.

**names = [first, last]**

# Display the list.

**print(names)**

# Transfer these variable values into a dictionary,

# using keys 'first' and 'last'.

**mydict = {'first': first,**

**'last': last**

**}**

# Display the values.

**print(mydict['first'], mydict['last'])**

**Question 2**

**var = input("Please enter a value: ")**

# Display the value of var in upper case.

**print(var.upper())**

# Display the number of characters in var.

**print(len(var))**

**Question 3**

1. **print(a == b)**
2. Both a and b are the same value so == is a comparison operator and it should return True
3. **print(a is b)**
4. both a and b are the same value so python reduces memory usage by having 2 variables point to the same block of RAM