04 – Make four programs

These suggested programming tasks are to help you decelop your programming once you have followed the 01 to 03 tasks or completed a few python programming tutorials. If you got stuck on any of the previous tasks there are working solutions in the "XX solutions" document.

1) Basic input and output

Write a profiling program that asks some basic questions to the user such as name, age, favourite subject, favourite sport, number of siblings etc. and that then outputs a short paragraph describing them:

i.e. "XXXXX is XXX years old and has XXXX siblings….etc"

Hint, the print() function can take as many arguments as you want to give it…

print(name, " is ",a,b,c,d,e,f,g,h…….)

If you did the 01 Interviewer task then you can extend your interviewer program using this idea and as an extra write the paragraph and the user's score from the quiz questions to a file

2) Processing: if, elif, else constructions

Write a temperature response program that asks a user to input their body temperature in degrees centigrade and gives an output according to this table. For this the temperature needs to be stored not as an integer but as a real number. In most programming languagues this type of number is stored as a **float**. (Floating point number). The line below does four things!

1) Prompts the user with "Enter your…….. text.
2) Receives the input from the user.
3) Converts the input into a floating point number.
4) Store the number in a variable named temperature.

temperature = float(input("Enter your……))

Temperature	Message
Less than 35.6	You are hypothermic - get warmer
35.6 or more but less than 36.1	Your body temperature is low
36.1 or more but less than 37.2	Your body temperature is normal
37.2 or more but less than 37.8	Your temperature is slightly high
3.78 or more but less than 40	You have a fever
40 or more but less than 41.7	You may be seriously ill, see a doctor
More than 41.7	Go to hospital

```
if (temperature<35.6):
        print("……
```

```
elif(temperature<36.1):
        print("…….
……..
else:
```

Sources:
http://medical-dictionary.thefreedictionary.com/body+temperature
http://www.webmd.boots.com/a-to-z-guides/normal-body-temperature

If you did this OK then as an extra you could add in blood pressure asking the using for their systolic and diastolic pressure and get the program to give the user message depending on their readings. https://www.nhs.uk/conditions/blood-pressure-test/

3) Functions, arguments and return codes

Calculators have already been created of course but this exercise is a good way to learn about functions….

```
def addition(x,y):
        z = x + y
        return z


a = int(input("Enter ……..
b = int(input…….
c = addition(a,b)
print("Your two numbers added ……
```

Start by completing the necessary lines to get this program to work then add in subtraction, multiplication, division. Extension task: integer division and remainders,.

4) Choose a problem to try from Tim Wilson's or Jeff Elkner's problem set or other problem of your choice:

http://openbookproject.net/pybiblio/practice/