Exercises - Introduction:

Text-based Problems

1. Use the **age_calc.py** program provided. Run and experiment with the code. In particular, experiment to see what happens when you introduce minor mistakes into **age_calc.py**, such as spelling mistakes or incorrect indentation.

2. Write a program which uses two variables called **number** and **twice_number**. The program should prompt the user for a value for **number**, then assign twice this value to **twice_number**, and then print out both values on the screen. An example run might produce:

```
Enter a value for 'number': 4

The value of 'number' is 4.
The value of 'twice_number' is 8.
```

   Can you make sure that you have printed the full-stops at the end of the line?

3. Conditions in **if** statements can be "AND"ed together using the keyword **and**, so that, for example:

```
if another_age > 4 and another_age < 9:
```

   means "if **another_age** is greater than 4 and less than 9". By using **if** statements along with the keyword **and**, alter **age_calc.py** so that if **another_age** works out to be more than 150, the screen output is:

```
Sorry, but you'll probably be dead by [year]!
```

   and if **another_age** works out to be negative, the screen output is:

```
You weren't born in [year].
```

   Remember to test the program with various different inputs from the keyboard.

4. (This question is difficult, so don't worry if you don't do it!) Alter your program from question 3 so that it deals with months as well as years, and produces output such as the following:

```
Enter the current year then press RETURN: 2007
Enter the current month (a number from 1 to 12): 10
Enter your current age in years: 47
Enter the month in which you were born (a number from 1 to 12): 5
Enter the year for which you wish to know your age: 2012
Enter the month in this year: 6

Your age in 6/2012: 52 years and 1 month.
```

The program should cope with singulars and plurals properly in the output, e.g. "1 month" but "2 months".

Hints: you will have to introduce extra variables and may find the following arithmetical operations useful:

Symbol	Operation	Example	Value
+	Addition	3 + 5	8
-	Subtraction	43 - 25	18
*	Multiplication	4 * 7	28
/	Division	9 / 2	4
%	Modulus	20 % 6	2

(Notice that when the division sign "/" is used with two integers, the result will be a float.)