This document is part of the HTML publication "**An Introduction to the Imperative Part of C++**"

The original version was produced by **Rob Miller** at **Imperial College London**, September 1996.

Version 1.1 (modified by **David Clark** at **Imperial College London**, September 1997)

Version 1.2 (modified by **Bob White** at **Imperial College London**, September 1998)

Version 1.3, 1.4, 2.0, ..., 2.15 (modified by **William Knottenbelt** at **Imperial College London**, September 1999-September 2016)

Introduction to C++ Programming: Exercise Sheet 1

These exercises assume some familiarity with PCs running a UNIX-based operating system (e.g. Linux, MacOS, etc.).

Question 1

Using Appendix A.1 to help you, create a directory (folder) called "AgeCalculator". Inside this directory, create a program file called "AgeCalculator.cpp", type in Program 1.5.1 in the notes, save the file, compile it, and run it. Compare your screen output with the example output in the lecture notes. Briefly experiment in improving and changing the output format.

(BACK TO COURSE CONTENTS)

Question 2

Alter Program 1.5.1 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]!
```

Test the program with various different inputs from the keyboard.

(EXAMPLE ANSWER) (BACK TO COURSE CONTENTS)

Question 3

(More difficult.) Alter your program from question 2 so that it deals with months as well as years, and produces output such as the following:

```
Enter the current year then press RETURN.
1996
Enter the current month (a number from 1 to 12).
10
Enter your current age in years.
36
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.

2001

Enter the month in this year.

6

Your age in 6/2001: 41 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 in the variable declaration, 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, it returns an integer.) You may also want to use the following comparison operators:

Symbol	Meaning	Example	Value
<	less than	3 < 5	TRUE
<=	less than or equal to	43 <= 25	FALSE
>	greater than	4 > 7	FALSE
>=	greater than or equal to	9 >= 2	TRUE
==	equal to	20 == 6	FALSE
!=	not equal to	20 != 6	TRUE

(EXAMPLE ANSWER) (BACK TO COURSE CONTENTS)
