# SOFT6018 Project 25%

Write a program that creates a maths quiz for a primary school teacher.

The teacher can specify the number of questions in the quiz.

The teacher can choose a specific operator to test (addition, subtraction, multiplication or division) or ask the program to generate a random selection of all four i.e. the quiz is made up of a random list of questions.

Two files will be produced for the teacher:

*   A file with the quiz questions, each numbered
*   A file with the quiz questions and answers, each numbered

The teacher must provide his name and the class' name e.g. First Class, Second Class. This information will appear at the start of the quiz and the class name used to create the file names.

The names of the files are the classname_quiz.txt and classname_answers.txt

The operands i.e. the numbers in the maths questions are random integers between 1 and 12, for addition, multiplication and subtraction.

If the operator is subtraction, then you should ensure that the first operand is bigger than the second operand because negative numbers are rarely used in primary school.

Division is a little harder – you must ensure that the answer is a whole number only and that the answer and the divisor lie between 1 and 12 e.g. in 120 ÷ 10 = 12 the divisor is 10 and answer 12.

Validate all inputs.

Sample run:

```
What is the class' name? First Class
What is your name? Frederick Bloggs
How many questions? 10
1: Random
2: Specific
  >>>>2
```

```
        Which operator? (*, /, +, or -) >> +
```

With the file First Class_quiz.txt

```
Class: First Class
Teacher: Frederick Bloggs
==============================

1  : 2 + 3 = _____
2  : 7 + 9 = _____
3  : 4 + 6 = _____
4  : 12 + 6 = _____
5  : 5 + 8 = _____
6  : 8 + 5 = _____
7  : 10 + 8 = _____
8  : 6 + 8 = _____
9  : 10 + 13 = _____
10 : 12 + 3 = _____
```

And the other file First Class_answers.txt

```
Class: First Class
Teacher: Frederick Bloggs
==============================

1  : 2 + 3 = 5
2  : 7 + 9 = 16
3  : 4 + 6 = 10
4  : 12 + 6 = 18
5  : 5 + 8 = 13
6  : 8 + 5 = 13
7  : 10 + 8 = 18
8  : 6 + 8 = 14
9  : 10 + 13 = 23
10 : 12 + 3 = 15
```

An answer file created for 12 questions with random operators might be:

```
Class: Fourth Class
Teacher: Minerva McMahon
==============================

1  : 12 + 11 = 23
2  : 8 + 5 = 13
3  : 121 ÷ 12 = 10
4  : 5 * 9 = 45
5  : 1 + 8 = 9
6  : 8 * 12 = 96
7  : 121 ÷ 9 = 13
8  : 9 * 5 = 45
9  : 9 ÷ 5 = 1
10 : 10 - 3 = 7
```