CS2100 Computer Organization
Recitation 1
Extra Exercises

Question 1

Write a program that:
1. Asks for an operator, which can be "+", "-", "*", "/" or "q".
2. If the operator is +, -, * or /, ask for two floating point numbers.
3. Prints "Unrecognized operation" if the operator entered is not +, -, *, / or q.
4. If the person enters "q" the program says "Bye!" and exits. If the user enters +, -, *, /, the program performs the operation on the two numbers entered and prints the result in two decimal places.
5. If the user did not enter "q", go to 1.

Some sample runs are shown here:

```
Please enter an operation (+, -, *, / or q to quit): +

Enter the first nunber: 1.2

Enter the second number: 2.3

1.20 + 2.30 = 3.50

Please enter an operation (+, -, *, / or q to quit): /

Enter the first nunber: 3.22

Enter the second number: 10.15

3.22 / 10.15 = 0.32

Please enter an operation (+, -, *, / or q to quit): ~

Unrecognized operation
Please enter an operation (+, -, *, / or q to quit): *

Enter the first nunber: 1.2

Enter the second number: 2.5

1.20 * 2.50 = 3.00

Please enter an operation (+, -, *, / or q to quit): q

Bye!
```

Question 2

Using what you know about number systems and C, show why this while loop may never end:

```
float x = 0.0;
while(x != 0.1)
    x += 0.1;
```