Introduction to Programming 1 – Worksheet 7

This week's worksheet is based trying out some code to do with arrays.

Part 1 – Basic Array Use

Question 1
Write a program named Q1.c. This program should ask the user to enter 10 numbers and store them in an array.

Question 2
Modify the code in Q1.c so that the average of the numbers is calculated.

Question 3
Modify the code in Q1.c so that for each number a message is printed telling us if the number was above average or below average.

Question 4
Modify the code in Q1.c so that it also prints the maximum of the numbers entered.

Question 5
Modify the code in Q1.c so that it also prints the minimum of the numbers entered.

Part 2 - Strings

Question 6
Write a program named Q6.c. In this program you should declare an array of characters called myname. You should put the value of your name into the array on character at a time.
E.g. myname[0] = 'S';
Don't forget to add the null character to the end of your name.
Then print the name to the screen.

Question 7
Modify the code in Q6.c so that after the name is printed, it is then printed in reverse.

Question 8
Modify the code in Q6.c so that after the name is printed in reverse, the ASCII codes of the characters are printed out, each separated by a space.

Part 3 – Number Representation

Question 9

Write a program named Q9.c. This program should read an integer value from the user using the gets function. This means that you need to calculate the value of the number based on the characters in the string. Print the value of the number multiplied by 2.

Question 10

Write a program named Q10.c. This program should read a positive integer from the user using scanf. The value of the number should be between 0 and 255. Based on the method described in the notes, convert the number to a binary string and print out the value. The binary value should be exactly 8 bits long.

Example Output:
Enter the number: 123
In binary that is: 01111011