**Logic Operators and Binary words**

Code the following simple algorithms in VB and test and record the output with the input data supplied. **All variables should be declared as data type ‘Byte’**. This is an unsigned 8 bit binary word.

1. Input A

B ← Not A

Output B

A = 15 B = …………………… A = 128 B = ……………………

A = 1 B = …………………… A = 100 B = ……………………

1. Input A

Input B

C ← A And B

Output C

A = 15 B = 10 C = …………… A = 15 B = 5 C = ……………

A = 56 B = 0 C = …………… A = 255 B = 64 C = ……………

1. Input A

Input B

C ← A Or B

Output C

A = 15 B = 10 C = …………… A = 15 B = 240 C = ……………

A = 56 B = 0 C = …………… A = 255 B = 64 C = ……………

Can you explain the outputs you get? Hint: write out each input as an 8 bit binary word.

Once you can see what is going on, try to predict the result of the following operations **without** using your program.

Not 10 = ……….. Not 80 = ……….. Not 123 = ……….. 77 And 64 = ……….

77 And 32 = ………. 77 And 128 = ………. 77 Or 49 = ………. 12 Or 69 = ……….

15 And (Not 15) = …….. 15 Or (Not 15) = …….. Not (23 And 81) = ………….

Not 23 Or Not 81 = ……….. 97 And 223 = …….. 65 Or 32 = ……….