a)(i)
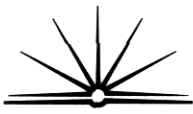
A	B	C	S
0	0	0	1
1	0	0	0
0	1	0	0
1	1	1	1

(ii) By adding two more AND gates, one NOT gate and one OR gate and then linking them together, the same as a half-adder then a full adder can be constructed.

b) There are many differences between the representations of floating point and integer. Firstly an integer can only be 5 digits whereas floating point can represent more. Also there is a decimal point when representing floating point. For example for calculating how many bananas and apples there were, integer would be suitable, however to work out the price if they are 99 cents and $1.10 respectively, floating point is nessesary.

c) (i) The first packet turns left then travels up, down, up, up, down, down, up, down, up and ~~ends~~ travels 1 millimetre up. The second packet also turns left and travells up, up, down, up, down, down, up, up up, Therefore going 3 millimetres up.

(iii) Begin Main Program.

Get length, checksum,

~~Get~~ Check length against Checksum.

If there is an error, restart program

Else continue on.

Get movement data from input data.

Move car according to movement data.

Store data in StringIn.

End Main Program.

Begin Sub program Input Data

Input data = length + checksum

End Sub program.