Chimera-2016-I Emulator Assignment

Practical 5 - Arithmetic

CANS Tech INC

It is the easy stuff now...

You have already done some arithmetic

Implementing the SBC Instruction

Once again inside the Group_1 function switch add

```
case 0xB7: // SBC
    CODE HERE
    break;
```

SBC		Addressing	Opcode
Register subtracted to Accumulator with Carry		A-B	0xB7
		A-C	0xC7
		A-L	0xD7
Flags:	T - - - T - - T	A-H	0xE7
notes		A-M	0xF7

SBC is ADC with a '-' instead of a '+'

Implementing the OR Instruction

Once again inside the Group_1 function switch add

```
case 0xBB: // OR
    CODE HERE
    break;
```

OR		Addressing	Opcode
Register bitwise inclusive or with Accumulator		A-B	0xBB
		A-C	0xCB
		A-L	0xDB
Flags:	T - - - T - - -	A-H	0xEB
notes		A-M	0xFB

OR is AND with a '|' instead of a '&'

Remember there is 15 marks for quility of code!

Think about the similarities between some instructions

Implementing the COMA Instruction

Once again inside the Group_1 function switch add

```
case 0x9B: // COMA
    CODE HERE
    break;
```

COMA		Addressing	Opcode
Negate Memory or Accumulator		A	0x9B
Flags:	T - - - T - - T		
notes			

COMA simply takes the 1Šs complement of Register A

1's complement inverts each of the bits

One way is to invert the bits in Register A is to XOR it with 0xFF

Another way would be to use the c operator

Now you can implement
ADD, SUB, XOR, TEST, DEC, SAL, SHR, NEG, SWI, RTI,

Questions?