Assembler Programming - The Little Man Computer

You can launch the LMC at voyager.egglescliffe.org.uk/mwc/LMC.html
For help, Google 'Little Man Computer' and follow the first link.

Use the three letter mnemonics to construct your program.

The following simple program will prompt for two numbers, store them, and then output them.

```
INP
STA FIRST
INP
STA SECOND
LDA FIRST
OUT
LDA SECOND
OUT
HLT
FIRST DAT
SECOND DAT
```

Instruction	Mnemonic	MachineCode
Load	LDA	5xx
Store	STA	3xx
Add	ADD	1xx
Subtract	SUB	2xx
Input	INP	901
Output	OUT	902
End	HLT	000
Branch if zero	BRZ	7xx
Branch if zero or positive	BRP	8xx
Branch always	BRA	6xx
Data storage	DAT	

Step through the program and make sure you are familiar with how it works.

For each program, copy your code before you compile it and if it works, paste it into the VLE assignment.

Program One – Easy – Addition & Subtraction

Write a program that will prompt for 2 numbers and store them. It will then add them and output the answer. It will then subtract them and output the answer.

Program Two – Medium – Decision

Write a program that will prompt for 2 numbers and check if they are the same. If they are then the program should output the number. If they are not then the program should output the number 0. (hint: load a value that is not used in the program otherwise)

Program Three – Hard – Loop

Write a program that will prompt for 2 numbers – a starting number and a counter (test with the values 10 and 5). The program will then output the first number and a number of multiples (in this case 5 multiples – so 10, 20, 30, 40 & 50).