

LMC codes

Visualising a program running

1. INP
OUT
HLT
2. INP
STA Number
LDA Number
OUT
HLT
Number DAT

Storing and Loading tasks

1. INP
STA First
INP
STA Second
LDA First
OUT
LDA Second
OUT
HLT
First DAT
Second DAT
2. INP
STA First
INP
STA Second
INP
STA Third
INP
STA Fourth
LDA Third
OUT
HLT
First DAT
Second DAT
Third DAT
Fourth DAT

3. INP
STA First
INP
OUT
LDA First
OUT
HLT
First DAT

4. INP
STA First
INP
STA Second
INP
OUT
LDA Second
OUT
LDA First
OUT
HLT
First DAT
Second DAT

Addition and Subtraction tasks

5. INP
STA First
INP
ADD First
OUT
HLT
First DAT

6. INP
STA First
INP
SUB First
OUT
HLT
First DAT

7. INP
STA First
INP
STA Second
INP
STA Third
LDA First
ADD Second
SUB Third
OUT
HLT
First DAT
Second DAT
Third DAT

8. INP
STA Number
ADD Number
OUT
HLT
Number DAT

9. INP
STA First
ADD First
STA First
ADD First
STA First
ADD First
OUT
HLT
First DAT

Challenge

INP
STA First
STA Second
ADD First
STA First
ADD First
STA First
ADD Second
STA First
ADD First
STA First
ADD First
STA First
ADD First
STA First
ADD First
OUT
HLT
First DAT
Second DAT

Looping tasks

10. INP
OUT
BRA 00

11. INP
ADD Total
OUT
STA Total
BRA 00
Total DAT 0

Conditional Branching tasks

12. INP

STA First

INP

STA Second

SUB First

BRP OutPutSecond

LDA First

OUT

HLT

OutPutSecond LDA Second

OUT

HLT

First DAT

Second DAT

13. INP

STA First

INP

SUB First

BRZ Equal

BRA 00

equal LDA First

OUT

BRA 00

First DAT

14. INP

BRZ Num1=0

BRA 00

Num1=0 OUT

BRA 00

15. INP

BRZ num1=0

OUT

Num1=0 BRA 00

Challenge	INP
	STA Total
	STA First
	INP
	SUB One
	STA Second
	loop LDA Total
	ADD First
	STA Total
	LDA Second
	SUB One
	STA Second
	BRZ Output
	BRA Loop
	Output LDA Total
	OUT
	BRA 00
	One DAT 1
	Total DAT
	First DAT
	Second DAT

Advanced Activities

16. INP

- BRP Positive
- STA First
- SUB First
- SUB First
- Positive OUT
- BRA 00
- First DAT

17. INP

- Output OUT
- BRP Postive
- ADD One
- BRA CheckIfZero
- Postive SUB One
- CheckIfZero BRZ FinalOutput
- BRA Output
- FinalOutput OUT
- BRA 00
- One DAT 1

18. INP

BRP Positive
LDA Zero
STA 98
BRA nextInput
Positive LDA One
STA 98
nextInput INP
BRP Positive2
LDA Zero
STA 99
BRA Subtract
Positive2 LDA One
STA 99
Subtract SUB 98
BRZ SameSign
LDA One
SameSign OUT
BRA 00
Zero DAT 0
One DAT 1

19. INP

STA First
INP
STA Second
BRZ DivideByZero
LDA First
BRZ ZeroDividedByx
Loop STA First
SUB Second
BRP Loop
LDA First
OUT
HLT
DivideByZero LDA NotGood
OUT
HLT
ZeroDividedByx OUT
HLT
First DAT
Second DAT
NotGood DAT 999

NOTE: this code outputs 999 if u try and divide by 0. It outputs 0 if u try and divide zero by anything. Otherwise it computes the remainder of the division.

Very Advanced Activity

INP
STA Number
Loop LDA CurrentNumber
SUB Number
BRZ OutputFinal
BRP SkipOut
LDA CurrentNumber
OUT
SkipOut LDA CurrentNumber
STA Temp
ADD PreviousNumber
STA CurrentNumber
LDA Temp
STA PreviousNumber
LDA Number
SUB PreviousNumber
BRP Loop
HLT
OutputFinal LDA
CurrentNumber OUT
HLT
Number DAT
PreviousNumber DAT
CurrentNumber DAT 1
Temp DAT 0
One DAT 1