## COLLEGE OF Engineering – department of computer science

Marie 2

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Remember that you can find the ISA here:

<https://github.com/MARIE-js/MARIE.js/wiki/MARIE-Instruction-Set-(with-Opcodes)>

For now, you can forget about subroutine and indirect addressing. Use only the other instructions.

**Task 1:**

Write a program that takes as inputs three numbers, x, y and z and store them at addresses 0x10, 0x11 and 0x12 in memory. Your program should store x+y+z (the sum) at address 0x13. Your program should also print out the sum on the screen.

Input // value of x

Store 10

Input // value of y

Store 11

input // value of z

store 12

add 10

add 11

Output

store 13

Halt

**Task 2:**

Write the assembly code on Marie that takes as inputs three numbers x,y and z and store them at addresses 0x60, 0x61 and 0x62 in memory. Your program should store x-y-z at address 0x65. Your program should also print out the result on the screen.

Input

Store 60 //x

Input

Store 61 //y

input

store 62 //z

load 60 //loading x

subt 61 // subtracting y from x

subt 62 // subtracting z from y

Output

store 65

Halt

**Task 3:**

Write the assembly code on Marie that takes as input one number x. Your program should display on the screen x+1 and x-1.

input

store 10 // x

add 8

output

load 10 //reloading value of x

subt 8

output

halt

HEX 1 //stored at location no. 8 in memory

Submit your lab by the end of the session.