ABC Machine Program Try-It

Part 1: Fill in the Description Column in the table below for each of the Instructions / Data shown below a few are filled in for you

Address	Type (Instruction or Data)	Description
0 0 0 0	1 0 1 0 0 0 0 0 0 0 0 0 0 1 1 1 1	Holds Load Instruction: Loads the value at Memory Address 1111 into the source 1 register (register 000)
0 0 0 1	1 0 1 0 0 0 0 0 0 0 0 0 0 1 1 1 0	Loads the value at memory address 1110 into reg 000.
0 0 1 0	1 1 0 1 0 0 0 0 0 0 0 0 0 0 1 1 0	Branch to memory address 0110 but we **won't** because NPZ is zero.
0 0 1 1	1 0 1 0 0 1 0 0 0 0 0 0 1 1 0 1	Loads the value at memory address 1101 into reg 001
0 1 0 0	0 0 1 0 0 0 0 0 1 1 0 1 0 0 0 0	Subtract reg 001 from reg 000 and put the sum in reg 101
0 1 0 1	1 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1	Store the value of reg 000 into memory address 1111
0 1 1 0	1 1 1 0 0 0 0 0 0 0 0 0 0 1 0 0 1	Jump to memory address 1001

0 1 1 1	1 1 0 1 0 0 0 0 0 0 0 0 0 1 1 0	Branch to memory adress 0110 but we **won't** because the previous thing jumps over this.
1 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No instructions
1 0 0 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No instructions
1 0 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No instructions
1 0 1 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No instructions
1 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No instructions
1 1 0 1	0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1	No instructions Just holds dec 7
1 1 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	No instructions Just holds dec 1
1 1 1 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0	No instructions Just holds dec 2

Part 2: Execute each of the instructions above and show the final state of the registers and memory below:

Register	Contents
0 (000)	Decimal 1 – 0000...0001
1 (001)	Decimal 7 – 0000...0111
2 (010)	
3 (011)	
4 (100)	
5 (101)	Decimal -6 – 1111...1001 (-0000...0110)

6 (110)	
7 (111)	

Memory Address	Memory Contents (only fill in the changes)
0 (0000)	
1 (0001)	
2 (0010)	
3 (0011)	
4 (0100)	
5 (0101)	
6 (0110)	
7 (0111)	
8 (1000)	
9 (1001)	
A (1010)	
B (1011)	
C (1100)	
D (1101)	
E (1110)	
F (1111)	Starts at decimal 2 (0...010), ends at decimal 1 (0...001)