Assembly Syntax For The 8-Bit Processor

Instruction	OpCode	Description
NOP	0x00	No operation. Fetches the next operation.
HALT	0x01	Stops the computer clock.
LDA NUM	0x02	Loads register A with the given value.
LDA [ADDR]	0x03	Loads register A with the value stored in the given memory address.
STA [ADDR]	0x04	Stores the register A value in the given memory address.
LDB NUM	0x05	Loads register B with the given value.
LDB [ADDR]	0x06	Loads register B with the value stored in the given memory address.
STB [ADDR]	0x07	Stores the register B value in the given memory address.
ADD NUM	0x08	Adds the given value with the value stored in register A and stores the sum result in register A. The given number will be stored in register B.
ADD [ADDR]	0x09	Adds the value stored in the given memory address with the value stored in register A. Stores the sum result in register A.
SUB NUM	0x0A	Subtracts the given value with the value stored in register A and stores the subtraction result in register A. The given number will be stored in register B.

Instruction	OpCode	Description
SUB [ADDR]	0x0B	Subtracts the value stored in the given memory address with the value stored in register A. Stores the subtraction result in register A.
OUTA	0x0C	Sets the Output register with the register A value.
OUTB	0x0D	Sets the Output register with the register B value.
OUT NUM	0x0E	Sets the Output register with the given value.
OUT [ADDR]	0x0F	Sets the Output register with the value stored in the given memory address.
JP [ADDR]	0x10	Jumps to the given address.
JPZ [ADDR]	0x11	Jumps to the given address if the zero flag is 1.
JPC [ADDR]	0x12	Jumps to the given address if the carry flag is 1.