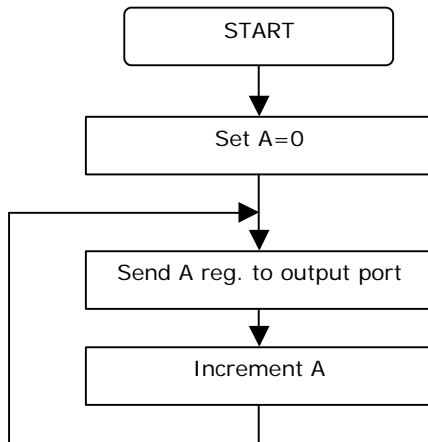


EZ-CPU CONTROL SYSTEM

CONTROLLING OUTPUTS - 1

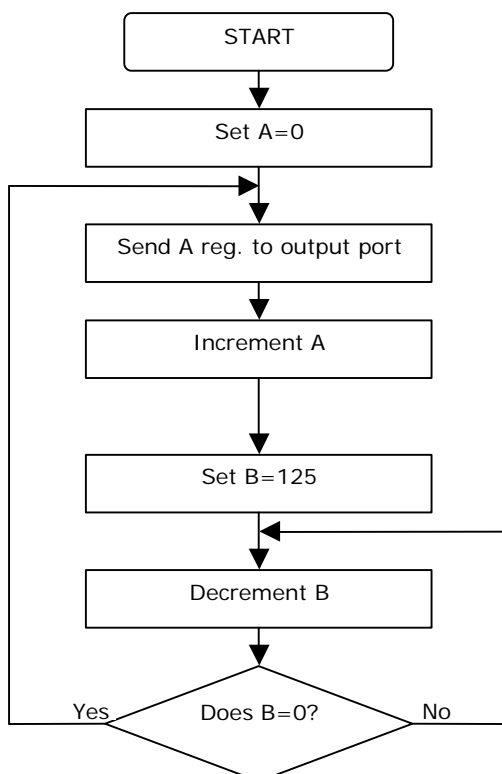
PROGRAM: BINARY COUNTER	IP MODULE: -
DESCRIPTION: Display a continually incrementing value via the output port.	OP MODULE: -
	CPU SPEED: 1 KHz

- Remember that when calculating relative jumps, the Program Counter is pointing to the next instruction when the jump is calculated (fetch then execute)



ADDR	INSTRUCTION	CODE
00	LD A,0	3E 00
02	OUT (0xFF),A	D3 FF
04	INC A	3C
05	JR -5	18 FB

To slow down the speed of this counter, a delay is needed. This can be done in a similar way as above, without sending the value to the port. To make a delay, load a register with a value and keep decrementing it until it equals zero. At 1KHz CPU speed, the delay loop will take 4 cycles = 4ms. Repeat that loop 125 times and the delay will take
 125 x 4ms = 0.5 seconds.



ADDR	INSTRUCTION	CODE
00	LD A,0	3E 00
02	OUT (0xFF),A	D3 FF
04	INC A	3C
05	LD B,0x7D	06 7D
07	DEC B	05
08	JRNZ -3	20 FD
0A	JR -10	18 F6