

How to Delay

- ① You could hypothetically guess no's until something works
- ② You could calculate the delay for a specific amount of time.

Delays in Assembly follow the general pattern of a loop:

Delay	SUBS	~	#1	→	1 cycle
	BNE	Delay		→	3 cycles

{ We want to find a count value to subtract from that will let us stay in the delay loop for a specific amount of real-world time. }

We use the formula: $NC = FT$ → what we want to calculate

- N - no. of cycles taken to execute instructions. (4)
- C - the count value we are trying to find ↪ only if you use
- F - the clock frequency (80MHz, set by Texas Inst)
- T - the time delay (150ms as an example)

Delay	SUBS	~	→	1 cycle	} N = 4
	BNE	Delay	→	3 cycles	

Now you have all the values, just plug them in to solve for C. (Use Hz & seconds when calculating C).

Hints: MOV can only be used for 16 bit values up to 65535.

LDR R2, = number, can be used to load up to 32 bit values ↪ ex. LDR R2, = 1000000