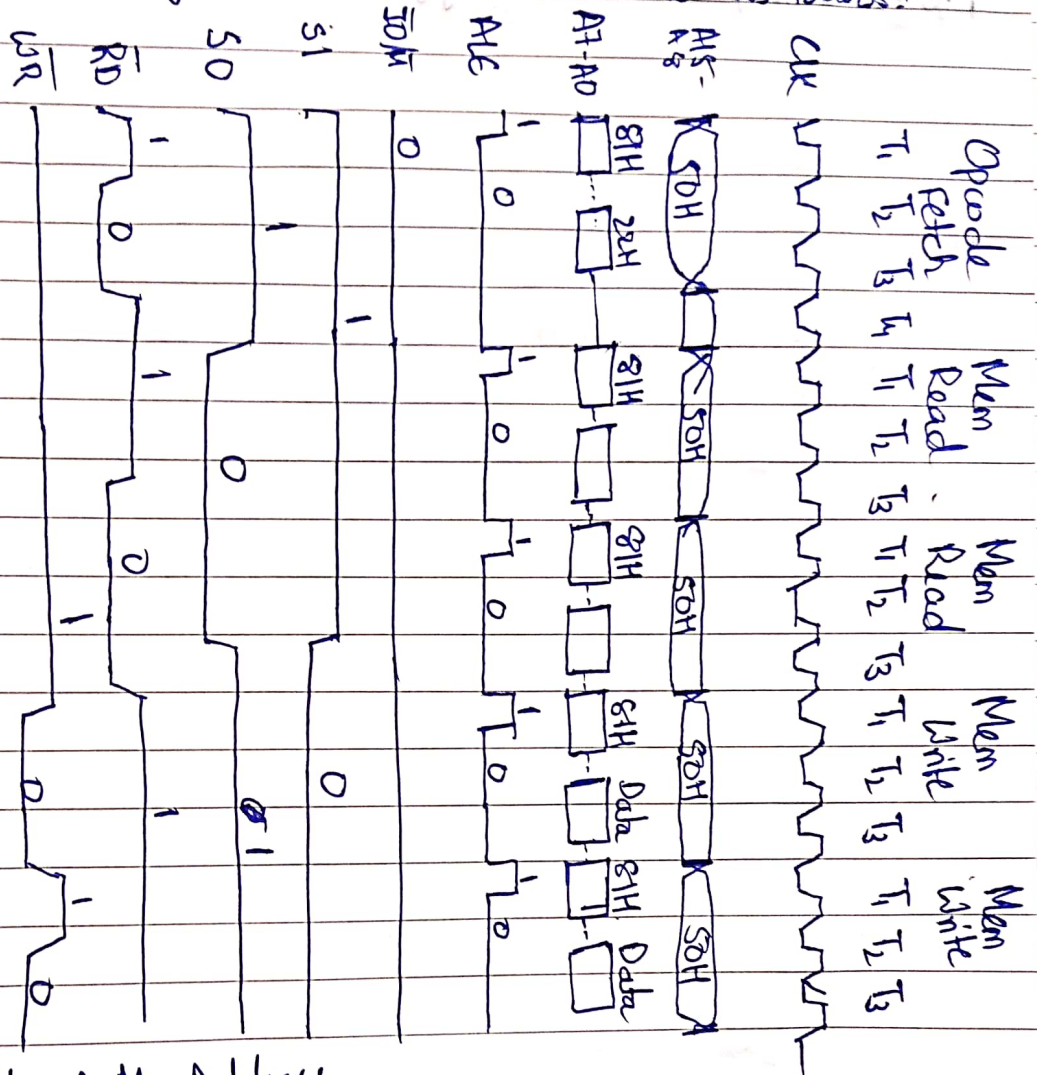


Ans 1: The instruction time diagram for SHLD 5081H is as follows:-



A15-A8 = 50H } My Address.
A7-A0 = 81H

Kinship Rank

Handwritten notes on lined paper, likely a ledger or journal, showing a series of entries with numbers and text. The entries are organized into columns and rows, with some entries appearing to be dates or times (e.g., 10/10, 10/11, 10/12, 10/13, 10/14, 10/15, 10/16, 10/17, 10/18, 10/19, 10/20, 10/21, 10/22, 10/23, 10/24, 10/25, 10/26, 10/27, 10/28, 10/29, 10/30, 10/31, 11/1, 11/2, 11/3, 11/4, 11/5, 11/6, 11/7, 11/8, 11/9, 11/10, 11/11, 11/12, 11/13, 11/14, 11/15, 11/16, 11/17, 11/18, 11/19, 11/20, 11/21, 11/22, 11/23, 11/24, 11/25, 11/26, 11/27, 11/28, 11/29, 11/30, 12/1, 12/2, 12/3, 12/4, 12/5, 12/6, 12/7, 12/8, 12/9, 12/10, 12/11, 12/12, 12/13, 12/14, 12/15, 12/16, 12/17, 12/18, 12/19, 12/20, 12/21, 12/22, 12/23, 12/24, 12/25, 12/26, 12/27, 12/28, 12/29, 12/30, 12/31). The text is written in cursive and is somewhat difficult to read due to the handwriting and the angle of the page.

2nd 1st yr [H08 - SA - 3A
 1110 - 04 - 3A

Ans 3: Given that Time period = $\frac{1}{2\text{MHz}} = 0.5 \times 10^{-6} = \underline{0.5 \mu\text{s}}$.

Calculating value,

$$10 + (6+4+4+10) \times X - 3 + 10 = \frac{500}{0.5 \times 10^{-6}} = 500 \times 10^3$$

$$X = \frac{500 \times 10^3 - 17}{24} = 20832.25_{10}$$

~~DE~~

DELAY: LXI B, 5161H

= 5161H

LOOP: DCX B

MOV A, B

ORA C

JNZ LOOP

RET

MVI D, AAH ; D = 1010 1010H

ROTATE: MOV A, D

RLC

; Rotate through carry.

MOV D, A

ANI 01H

; If it's 1, then jump up.

JZ UP

CALL DELAY

; Delay = 250 ms

CALL DELAY

; Delay = 250 ms.

~~UP: CALL DELA~~ OUT 10H

; Display to output port.

~~OUT~~ JMP DONE

UP: CALL DELAY

OUT 10H.

DONE: JMP ROTATE.

Part 2

U18C0081
Krunal Rank

4/5

classmate

Date

Page

Ans 4: To check pending RST 7.5, the following code can be used:-

~~EI~~ ; ~~Enable Interrupts~~

CHECK: RIM ; Read Interrupt Mask

MOV A, B ; Store Interrupt Mask in A

~~CPI 40H~~ ANI 40H ; Checks for set D₆ bit.

CPI 40H ; Checks pending Interrupt for RST 7.5 (D₆ bit)

JZ @ RST ; If equal, go to 003CH RST 7.5 location

JMP EXIT

RST: CALL 003CH ; Go to 003CH, vector address for RST 7.5

EXIT: ~~HIT~~ RET ; Return to main program if no interrupt

Ans: The required program is as follows:-

MVI B, 0H

INR B ; Resets Zero, Parity, Auxiliary Carry Flags

STC

; Sets Carry

CMC

; Resets Carry

MVI A, 00FFH

ADI 01H

MVI B, 0H

INR B ; Resets all flags (masked)

JC NEXT JNC NEXT ; If carry no carry, then jump next.

MVI A, 01H

~~NEXT: OUT 01H JMP DISP~~

~~HLT~~

NEXT: MVI A, 00H

DISP: OUT 01H

HLT.

The ADI instruction sets carry flag and is displayed in the output port.