delay in 8085

1.) using Single Register
2.) using Register pair
3.) using nested loop

1) Using Single Register

```
        MVI  B  0AH     7T
REPEAT: DCR  B          4T
        JNZ  REPEAT     10T/7T
```

Time delay inside the loop = (4T + 10T) * 10

= 140T State

= 140T − 3T

= 137 T State

Total delay generated = delay outside the loop + delay inside the loop

= 137T + 7T = 144T State

frequency 1MHz = 1 MHz = 1 μsec

= 144 * 1 μsec

= 144 μsec.

Delay using 16 bit Register pair

```
        LXI  B, 1028H      10T
REPEAT: DCX  B             6T
        MOV  A, C          4T
        ORA  B             4T
        JNZ  REPEAT        10T/7T
```

0003H

B C

00 00 H

0000 0000

(-1) 0000 0001

0000 0000

inside the loop

6T + 4T + 4T + 10T = 24T

1028H = 4136D ⇒ 24T * 4136

⇒ (24 * 4136)T − 3T

Total time delay = Time delay outside the loop + Time delay inside the loop

= ((4136 * 24T) − 3T) + 10T

Delay using Nested loop Method.

```
        MVI C, 0AH
LOOP:   MVI B FFH      7T
REPEAT: DCR B          4T
        JNZ REPEAT     10T/7T
        DCR C
        JNZ LOOP
```

FFH = 255D

Delay (255 * (14T) + 7T − 3T) * 10