# Task 3

REG NO: 23BCE2001

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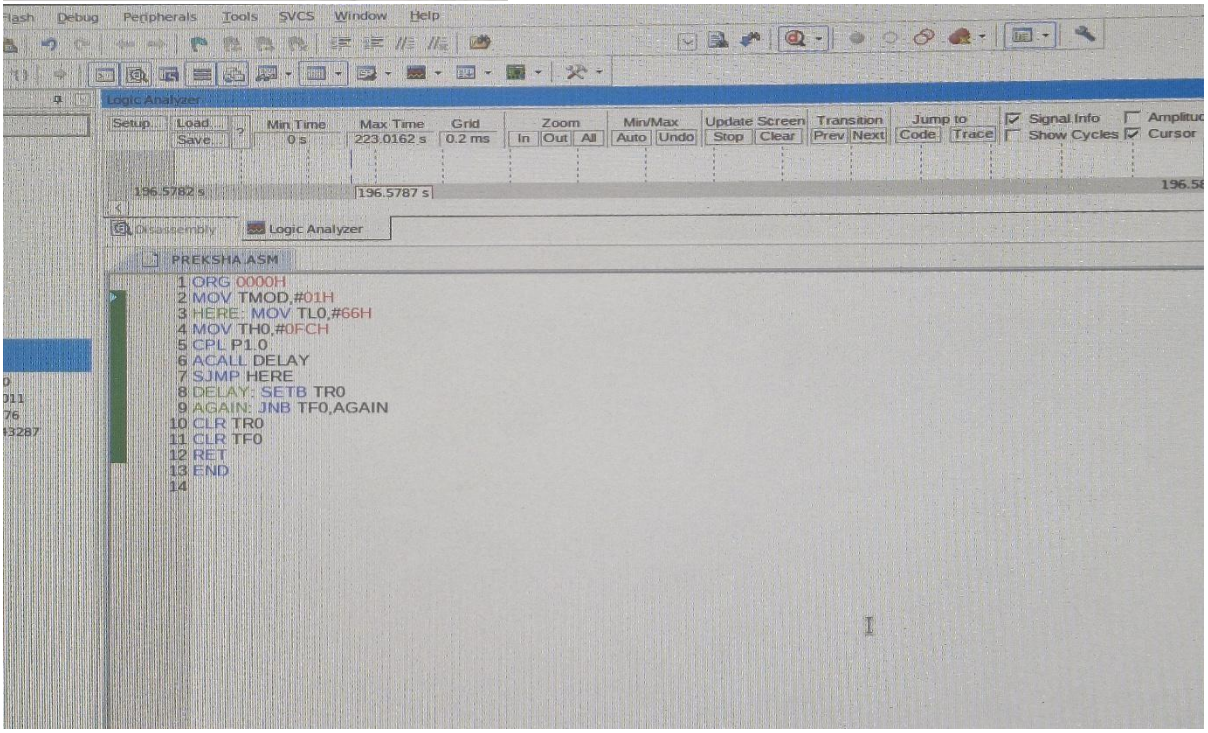
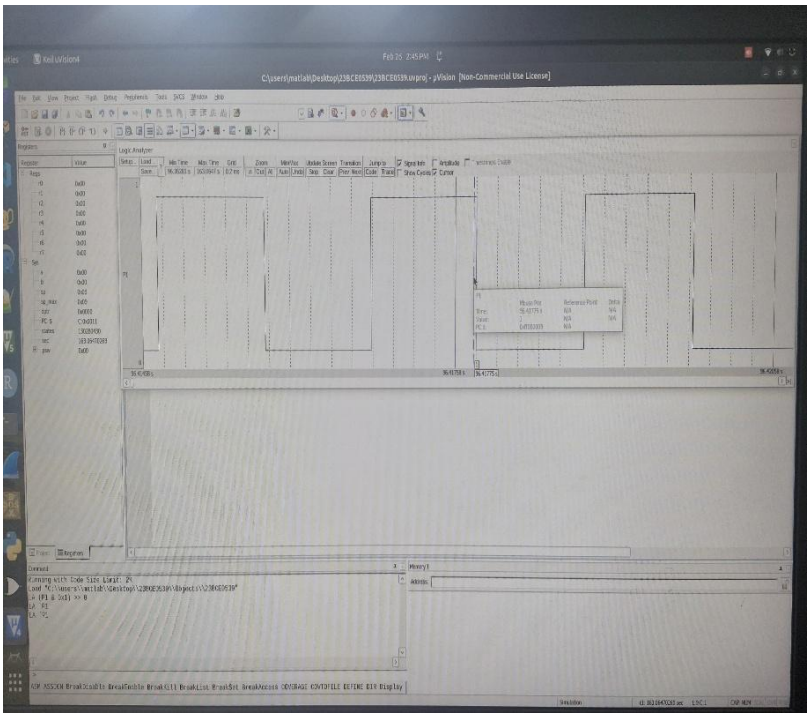
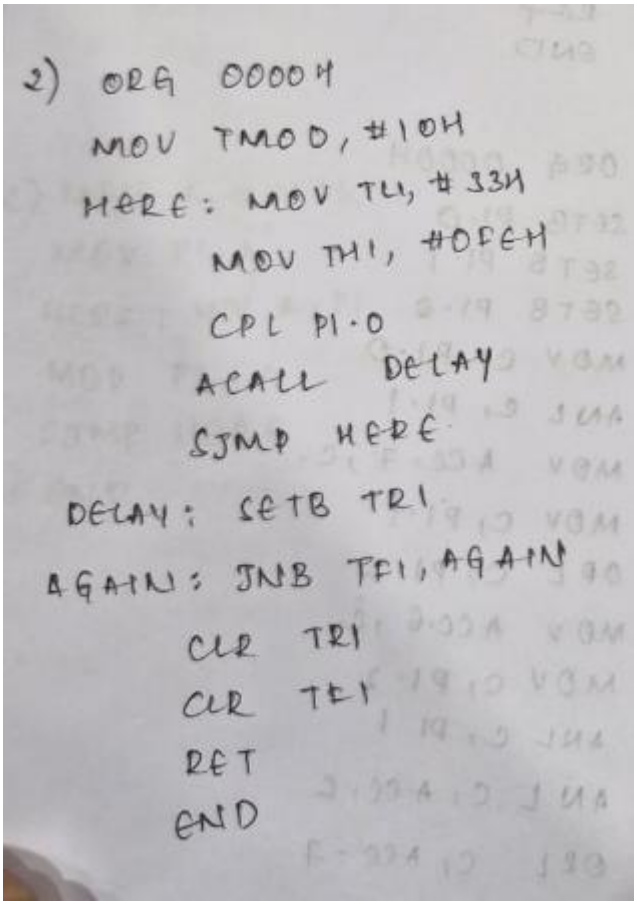
Q1: Write a program using timer 0 to generate a 500 Hz square wave frequency on one of the pins of P1. Then examine the frequency usig the KEIL IDE inbuilt Logic Analyzer.

```
1)  ORG 0000H
    MOV TMOD, #01H
HERE: MOV TL0, #66H
    MOV TH0, #0FCH
    CPL P1.0
    ACALL DELAY
    SJMP HERE
DELAY: SETB TR0
AGAIN: JNB TF0, AGAIN
    CLR TR0
    CLR TF0
    RET
    END
```

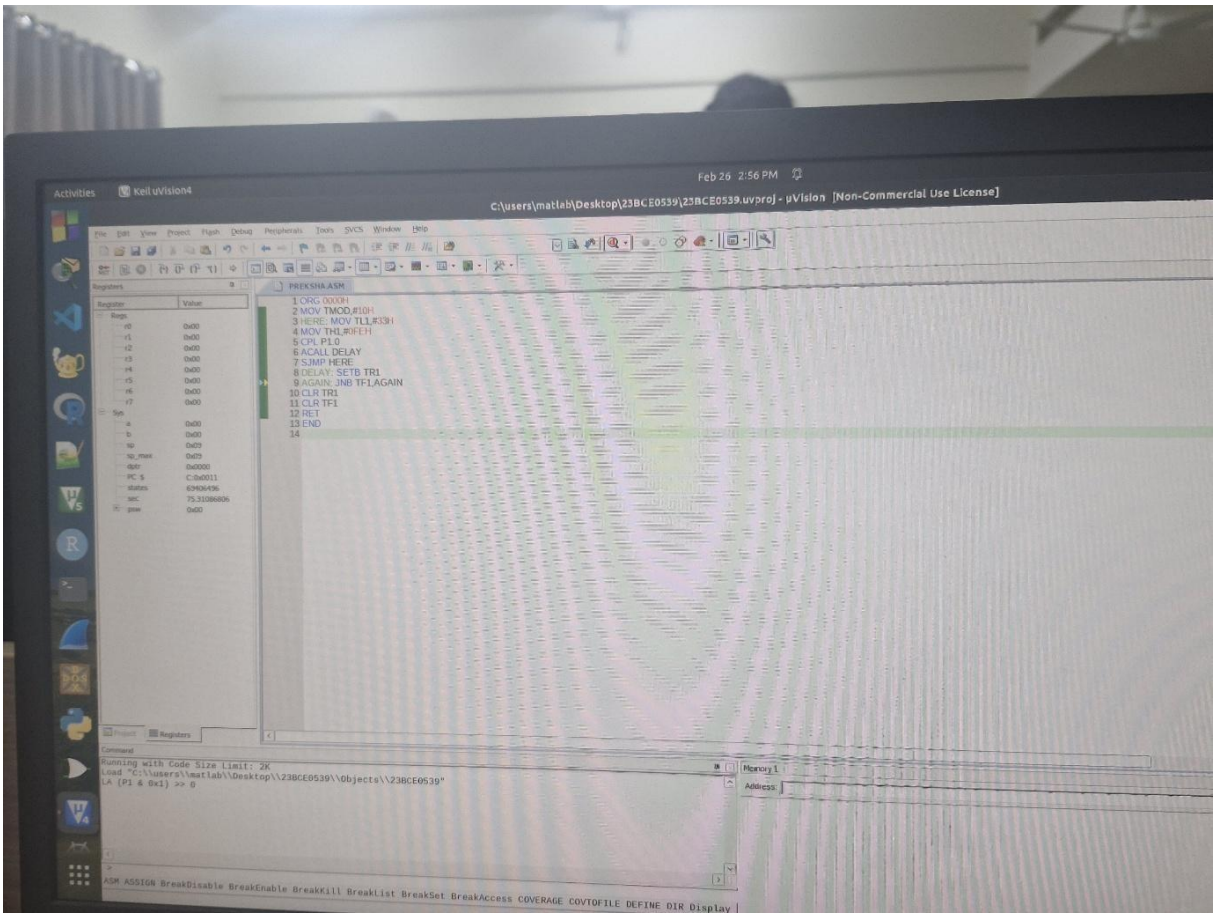


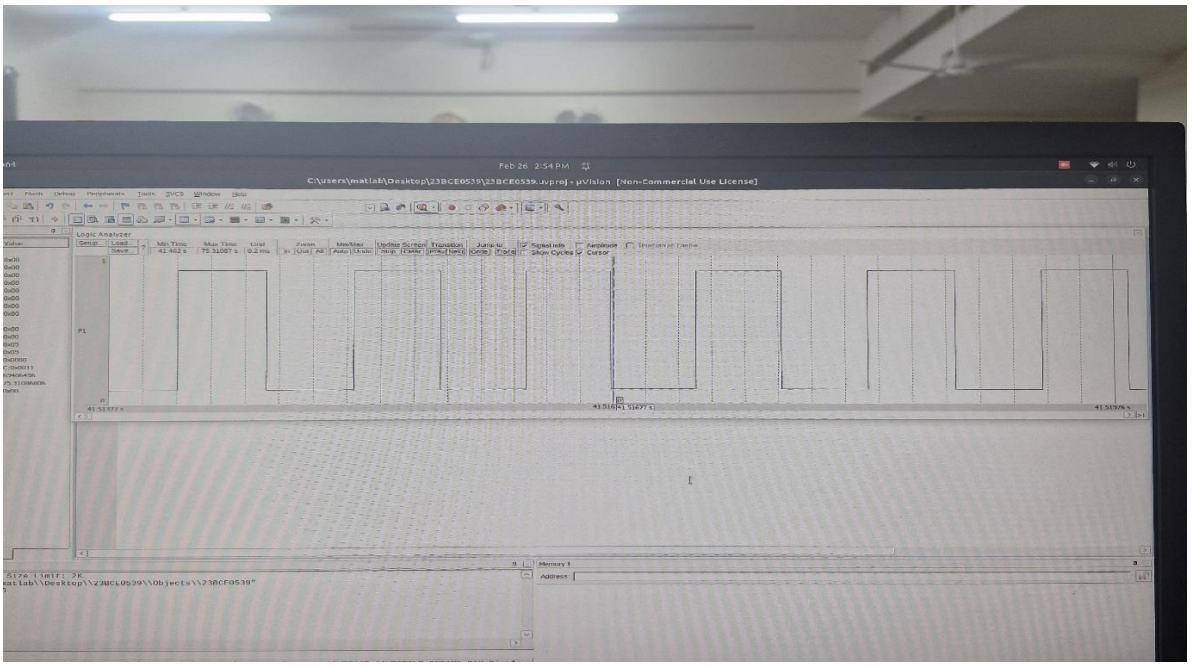


Q2: Write a programusing timer 1 to generate a 1kHz square wave frequency on one of the pins of P1



```
2)  ORG  0000H
    MOV  TMOD, #10H
HERE: MOV  TL1, #33H
      MOV  TH1, #0FEH
      CPL  P1.0
      ACALL DELAY
      SJMP HERE
DELAY: SETB TR1
AGAIN: JNB  TF1, AGAIN
       CLR  TR1
       CLR  TF1
       RET
       END
```


Activities
Keil uVision4
Feb 26 2:56 PM
C:\users\matlab\Desktop\23BCE0539\23BCE0539.uvproj - µVision [Non-Commercial Use License]
PREKSHA.ASM
1 ORG 0000H
2 MOV TMOD,#10H
3 HERE: MOV TL1,#33H
4 MOV TH1,#0FEH
5 CPL P1.0
6 ACALL DELAY
7 SJMP HERE
8 DELAY: SETB TR1
9 AGAIN: JNB TF1,AGAIN
10 CLR TR1
11 CLR TF1
12 RET
13 END
14
Running with Code Size Limit: 2K
Load "C:\\users\\matlab\\Desktop\\23BCE0539\\Objects\\23BCE0539"
LA (P1 & 0x1) >> 0
ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE DEFINE DIR Display
Memory 1
Address: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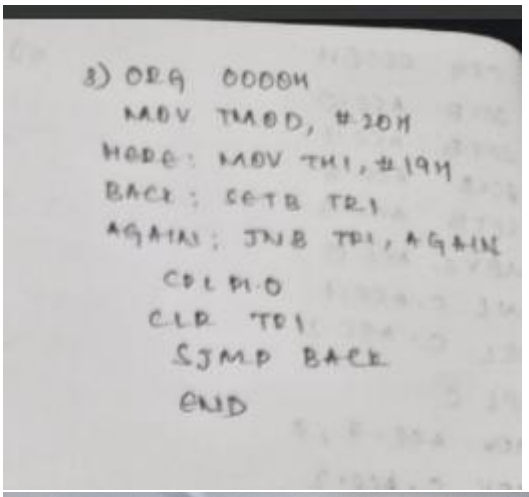
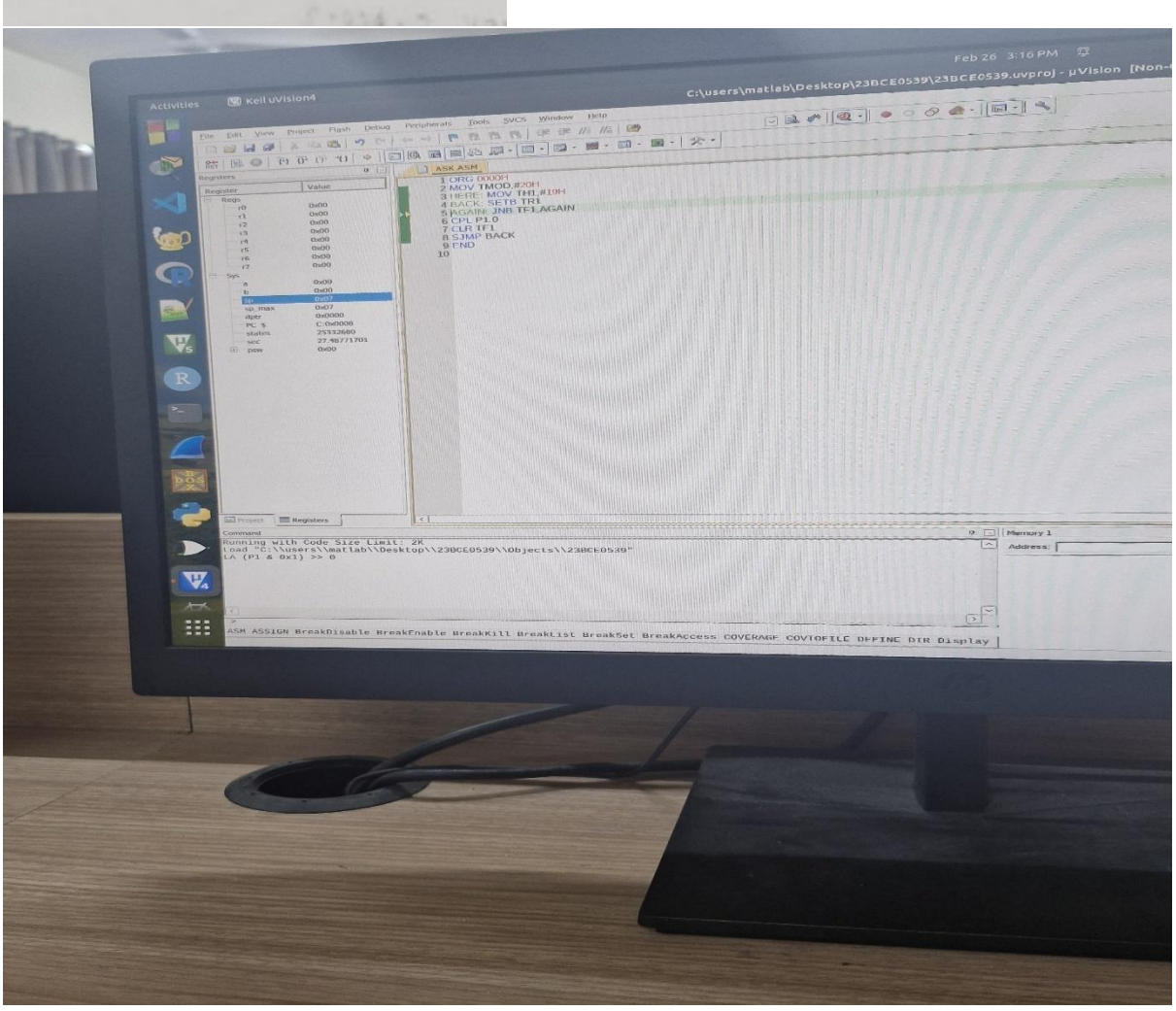
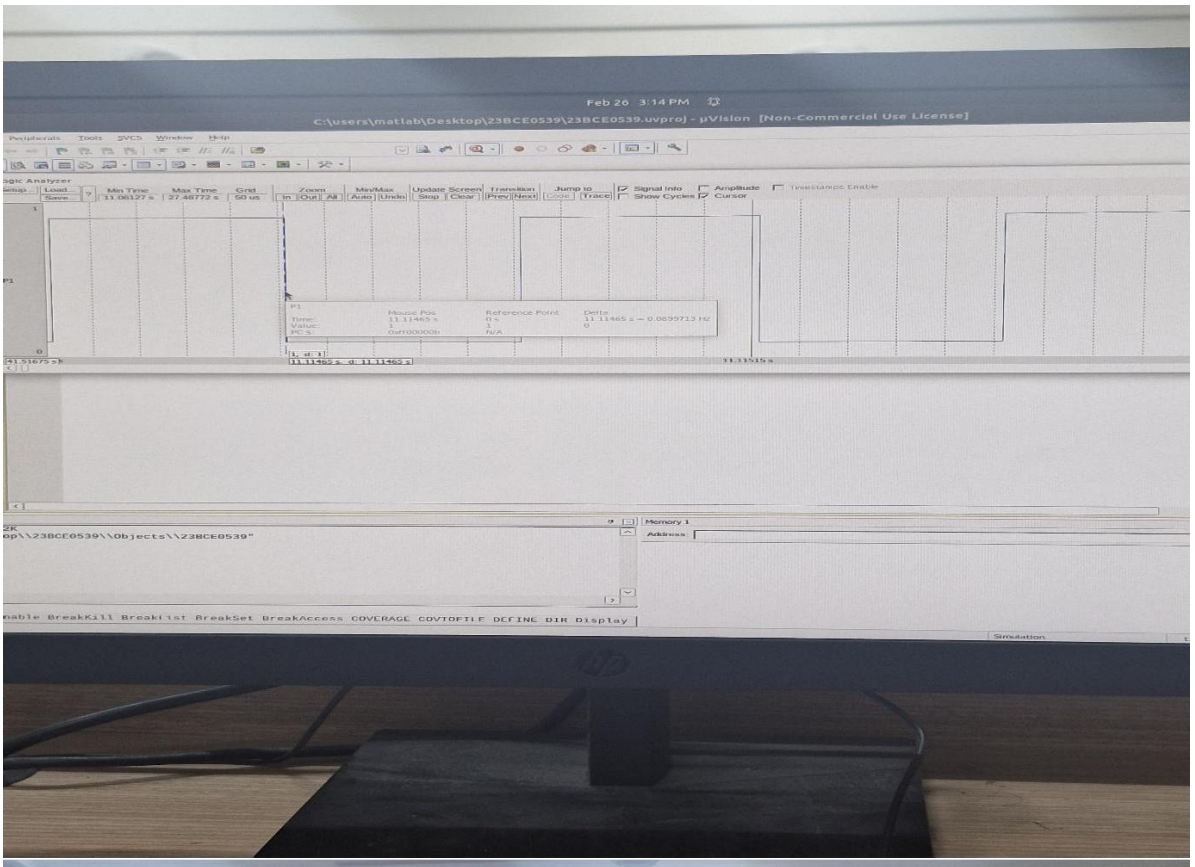
C:\users\matlab\Desktop\23BCE0539\23BCE0539.uvproj - µVision [Non-Commercial Use License]
Logic Analyzer
P1
Memory 1
Address

Q3: Write a program using timer 1 to generate a 2 KHz square wave frequency on one of the pins of P1.0. Then examine the frequency using the KEIL IDE inbuilt Logic Analyzer

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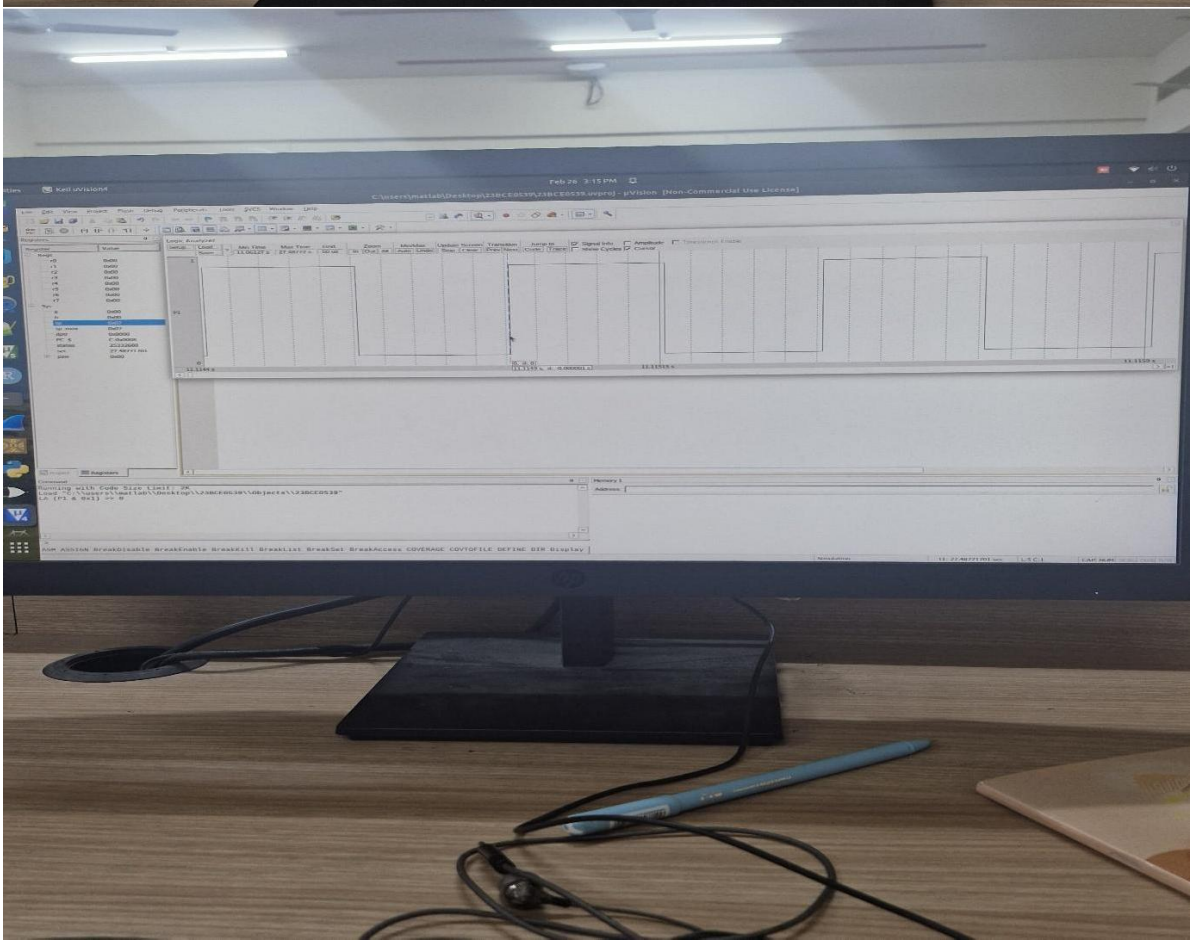
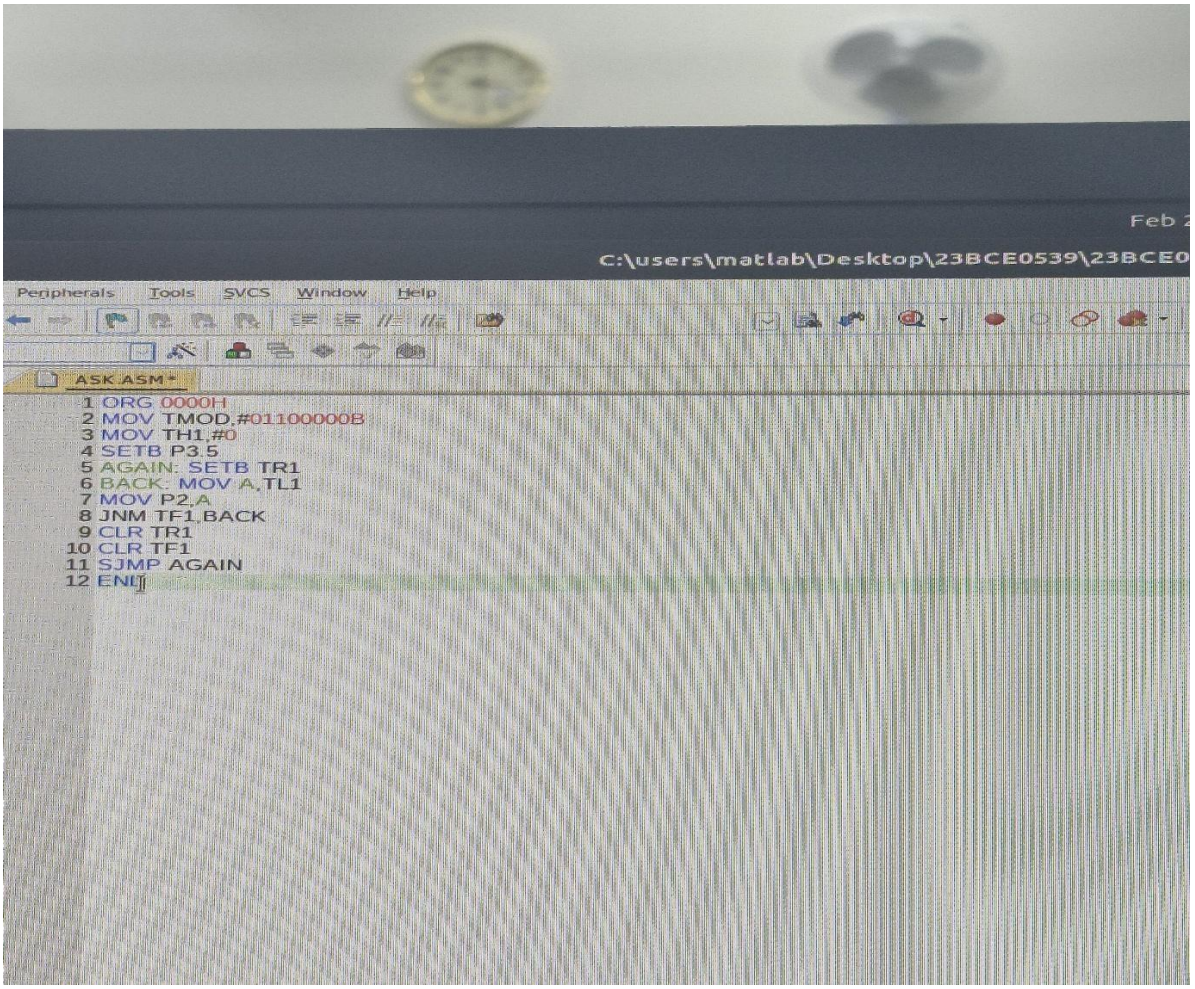
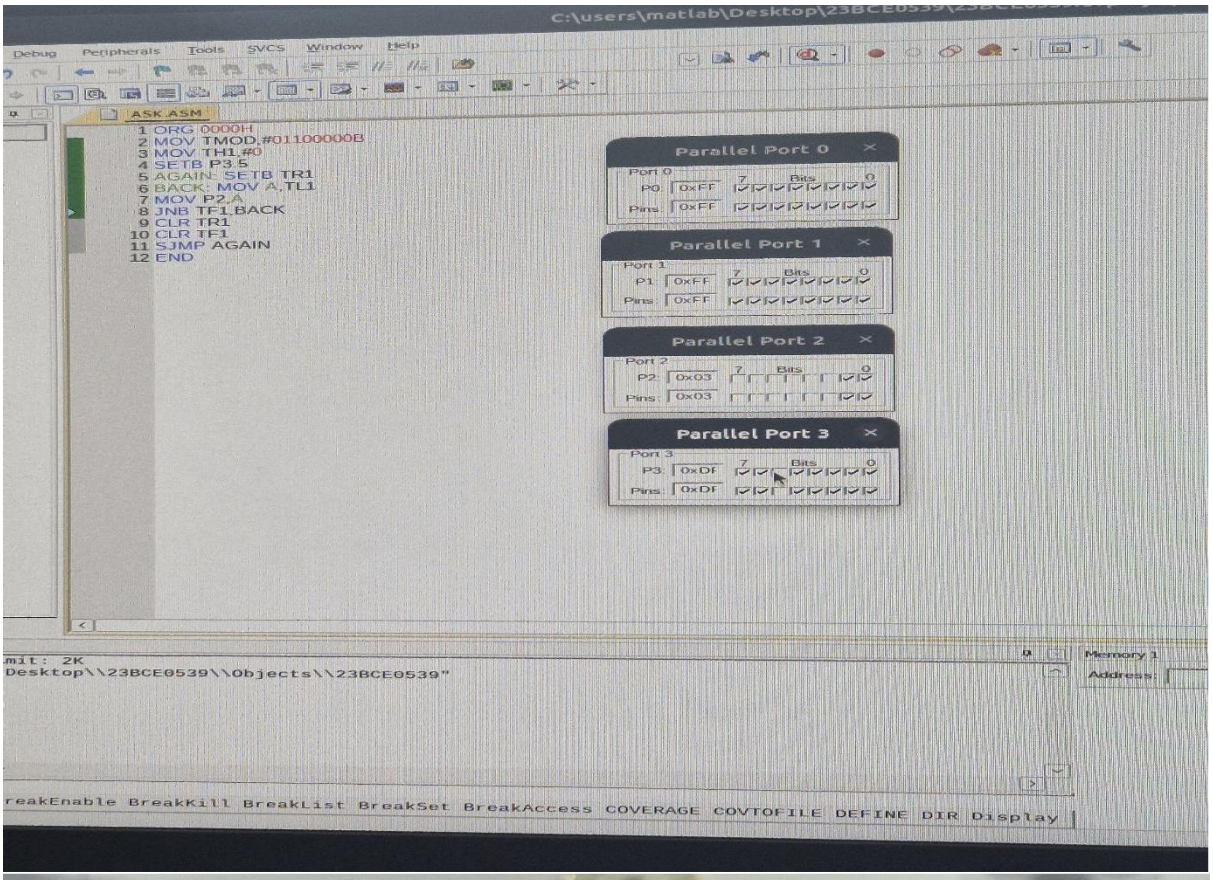
C:\users\matlab\Desktop\23BCE0539\23BCE0539.uvproj - µVision [Non-Commercial Use License]
Peripherals Tools SVCS Window Help
Logic Analyzer
Setup Load... Save
Min Time 11.06127 s
Max Time 27.48772 s
Grid 50 us
Zoom In Out All
MinMax Auto Undo
Update Screen Stop Clear
Transition Prev Next
Jump to Code Trace
Signal Info
Show Cycles
Amplitude
Cursor
Timestamps Enable
Mouse Pos
Reference Point
Delta
Memory 1
Address
op\\23BCE0539\\Objects\\23BCE0539"
nable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE DEFINE DIR Display
Simulation

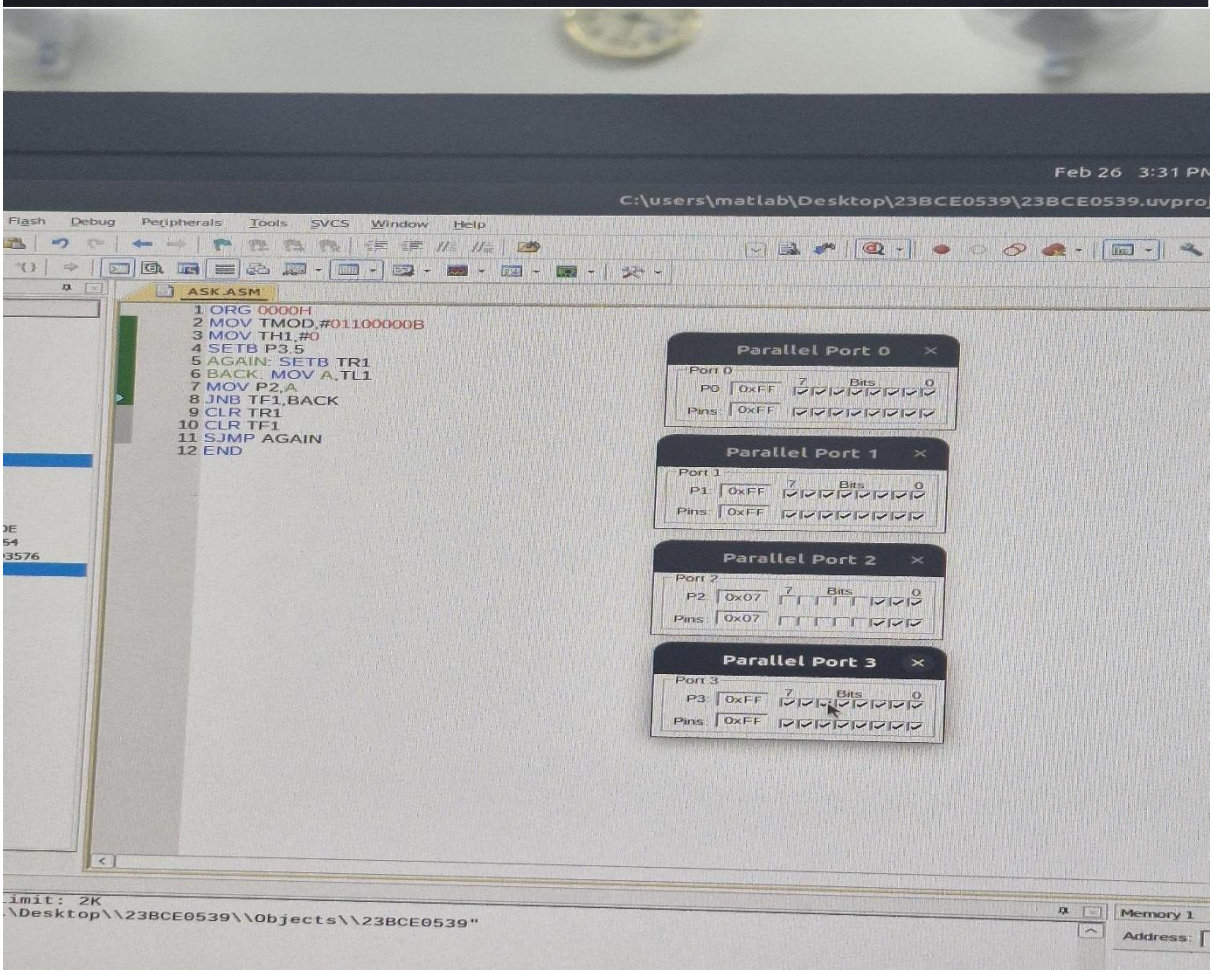

Feb 26 3:15 PM
Keil µVision4
C:\users\matlab\Desktop\23BCE0539\23BCE0539.uvproj - µVision [Non-Commercial Use License]
Logic Analyzer
Memory 1
Address
ASM Assign BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE DEFINE DIR Display

Q4: Assuming that clock pulses are fed into pin T1,write a program for counter 1 in mode 2 to count the pulses and display the state of the TL1 count on P2, which connects to 8 LEDs.

```
4) MOV TMOD, #01100000B
   MOV TH1, #0
   SETB P3.5
AGAIN: SETB TR1
BACK: MOV A, TL1
   MOV P2, A
   JNB TR1, BACK
   CLR TR1
   CLR TF1
   SJMP AGAIN
   END
```




C:\users\matlab\Desktop\23BCE0539\23BCE0539.uvproj
Debug
Peripherals
Tools
SVCS
Window
Help
ASK.ASM
1 ORG 0000H
2 MOV TMOD,#01100000B
3 MOV TH1,#0
4 SETB P3.5
5 AGAIN: SETB TR1
6 BACK: MOV A,TL1
7 MOV P2,A
8 JNB TF1,BACK
9 CLR TR1
10 CLR TF1
11 SJMP AGAIN
12 END
Parallel Port 0
Port 0
P0: 0xFF
Pins: 0xFF
Bits
Parallel Port 1
Port 1
P1: 0xFF
Pins: 0xFF
Parallel Port 2
Port 2
P2: 0x03
Pins: 0x03
Parallel Port 3
Port 3
P3: 0xDF
Pins: 0xDF
Memory 1
Address:
Desktop\\23BCE0539\\Objects\\23BCE0539"
reakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE DEFINE DIR Display


Feb 26 3:31 PM
C:\users\matlab\Desktop\23BCE0539\23BCE0539.uvproj
Flash
Debug
Peripherals
Tools
SVCS
Window
Help
ASK.ASM
1 ORG 0000H
2 MOV TMOD,#01100000B
3 MOV TH1,#0
4 SETB P3.5
5 AGAIN: SETB TR1
6 BACK: MOV A,TL1
7 MOV P2,A
8 JNB TF1,BACK
9 CLR TR1
10 CLR TF1
11 SJMP AGAIN
12 END
Parallel Port 0
Port 0
P0: 0xFF
Pins: 0xFF
Bits
Parallel Port 1
Port 1
P1: 0xFF
Pins: 0xFF
Parallel Port 2
Port 2
P2: 0x07
Pins: 0x07
Parallel Port 3
Port 3
P3: 0xFF
Pins: 0xFF
Memory 1
Address:
\Desktop\\23BCE0539\\Objects\\23BCE0539"