Lab C
Port 2, Driving Loads, Sound

1. Assemble the circuit shown in Fig. 1:

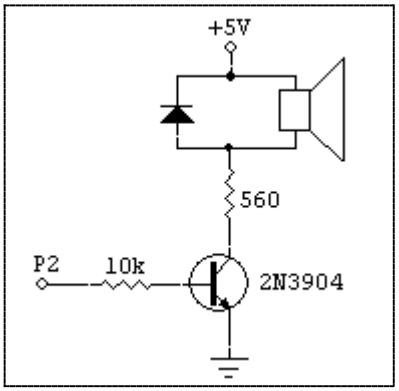

Fig. 1

2. Create, assemble, make appropriate comments and save the following program:

```
                ORG     00H             ;Start program here
                AJMP    Main            ;jump to main body

                ORG     100H            ;start main body here
Main:           NOP                     ;

Pitch:          NOP                     ;
                MOV     A,#0FFH         ;
                MOV     P2,A            ;
                MOV     R3,#0FFH        ;
High1:          NOP                     ;
                DJNZ    R3,High1        ;

                MOV     A,#00H          ;
                MOV     P2,A            ;
                MOV     R3,0FFH         ;
Low1:           NOP                     ;
                DJNZ    R3,Low1         ;
                SJMP    Pitch           ;
                END
```

3. Execute the program (refer to Labs A and B for instructions.)

4. Measure the frequency that is produced by this program. (Hint: Place the frequency counter across the diode.)

5. Modify the program so that a frequency of 1kHz is produced. Measure the frequency once again.

6. Write a report and attach the *.lst file. Comment on the operation of the transistor and the diode.