Laboratory 4: Peripherals

Problem 5:

The following program is given

```
1   list p=16f84a;
2   include "p16f84a.inc";
3   __config _CP_OFF&_WDT_OFF&_XT_OSC;
4   org 0;
5   clrf PORTB;
6   bsf STATUS, RP0;
7   clrf TRISB;
8   bcf STATUS, RP0;
9   movlw 0xFF;
10  movwf 0x0C;
11  movlw .64;
12  movwf 0x0D;
13  movlw b'11110000';
14  movwf PORTB;
15  end;
```

a. Write an explanation sentence after each line of the program.

b. Write (or copy) and compile the program in MPLAB.

c. Inspect the test card. Put JMP3 in the LED position. Draw the circuit diagram of pins RB1 and RB4 for this configuration. Color all connected lines for your program on the schematic.

d. Run the program on the test card:

- Setup the test card. Make sure that jumper JMP3 is in the LED position and the power cable is NOT plugged in.
- Load your program to a PIC16F84A using the program "usburn". Place the PIC in the correct orientation!
- Place the PIC on the test card. Place the PIC in the correct orientation!
- Plug in the power cable and observer the LEDs of the card.

Problem 6:

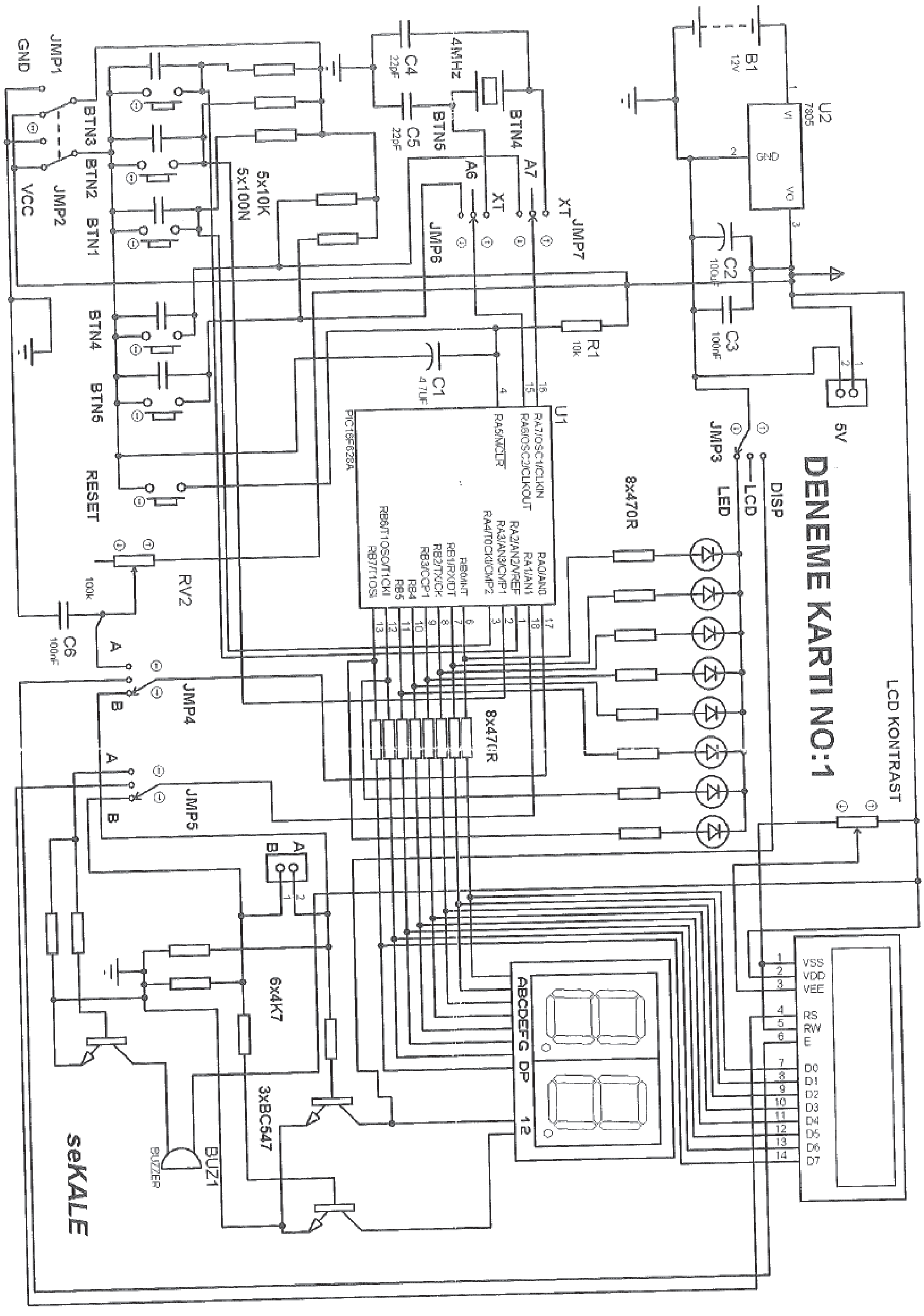
a. Modify your program in Problem 5:

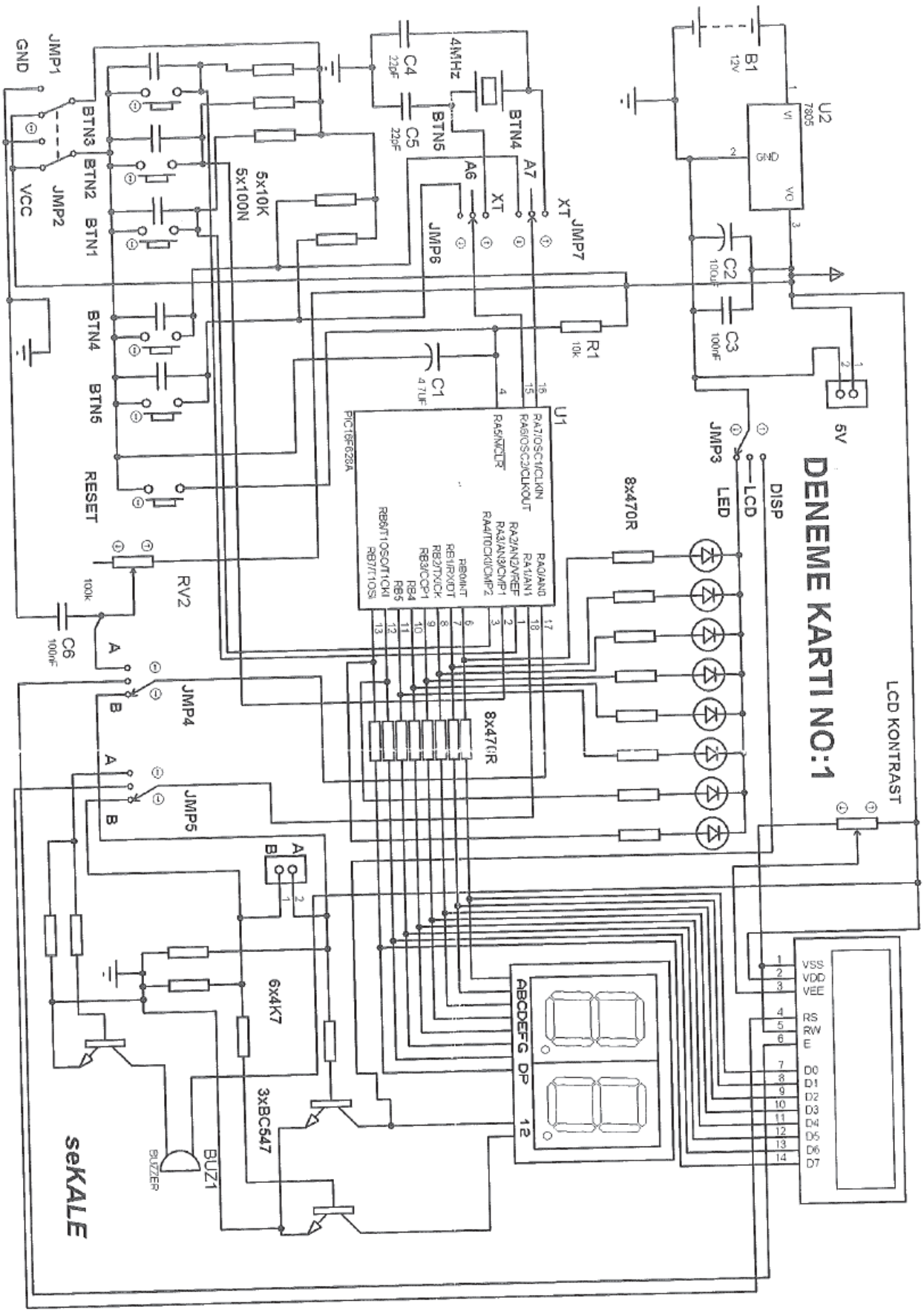
- Remove unnecessary lines.
- Use the button at RA2. Turn on the LEDs at RB0 to RB3 if RA2 is 0 and turn on the LEDs at RB4 to RB7 if RA2 is 1.

b. Color the connections that are used by this program on the schematic of the test card. How do you need to set JMP1 and JMP2 (also look at the datasheet of the card)?

c. Draw the circuit diagram of pin RA2.

d. Run your program on the test card.


DENEME KARTI NO:1
U1
PIC16F628A
RA7/OSC1/CLKIN
RA6/OSC2/CLKOUT
RA5/MCLR
RA0/AN0
RA1/AN1
RA2/AN2/VREF
RA3/AN3/CMP1
RA4/T0CKI/CMP2
RB0/INT
RB1/RX/DT
RB2/TX/CK
RB3/CCP1
RB4
RB5
RB6/T1OSO/T1CKI
RB7/T1OSI
U2
7805
VI
GND
VO
B1
12V
C2
100uF
C3
100nF
C1
4.7uF
R1
10k
C4
22pF
C5
22pF
4MHz
5V
JMP1
JMP2
JMP3
JMP4
JMP5
JMP6
JMP7
GND
VCC
BTN1
BTN2
BTN3
BTN4
BTN5
RESET
5x10K
5x100N
RV2
100k
C6
100nF
A6
A7
XT
8x470R
LED
LCD
DISP
LCD KONTRAST
VSS
VDD
VEE
RS
RW
E
D0
D1
D2
D3
D4
D5
D6
D7
ABCDEFG DP
12
6x4K7
3xBC547
BUZ1
BUZZER
seKALE


DENEME KARTI NO:1
seKALE
B1
12V
U2
7805
VI
GND
VO
C2
100uF
C3
100nF
5V
JMP3
LCD
DISP
LED
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RA7/OSC1/CLKIN
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RB0/INT
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RB4
RB5
RB6/T1OSO/T1CKI
RB7/T1OSI
C1
4.7UF
R1
10k
XT
JMP7
JMP6
A6
A7
BTN4
BTN5
4MHz
C4
22pF
C5
22pF
5x10K
5x100N
JMP1
GND
JMP2
VCC
BTN3
BTN2
BTN1
BTN4
BTN5
RESET
RV2
100k
C6
100nF
JMP4
JMP5
A
B
6x4K7
3xBC547
BUZ1
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