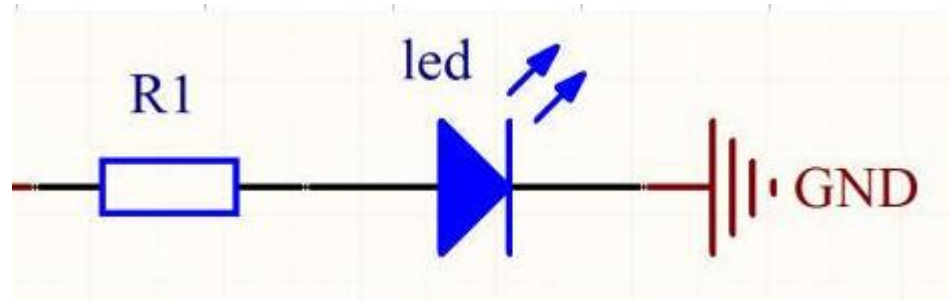
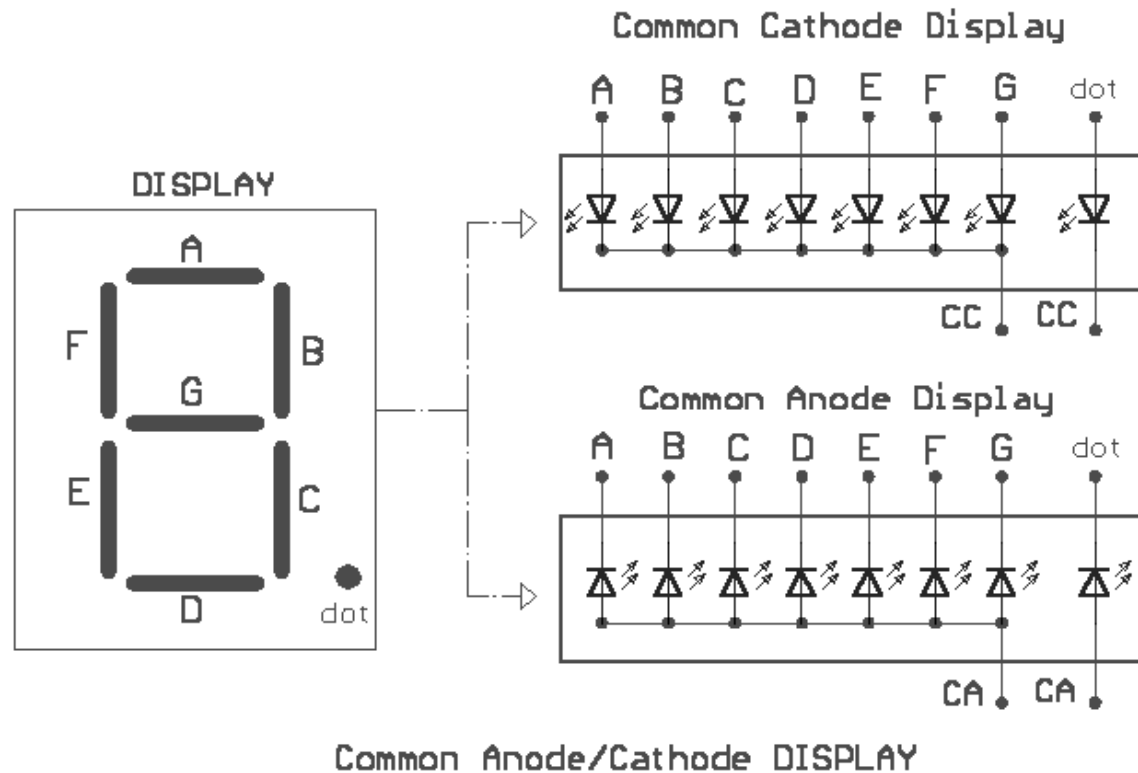


7-Segment Light-Emitting Diode (LED)

Output pin

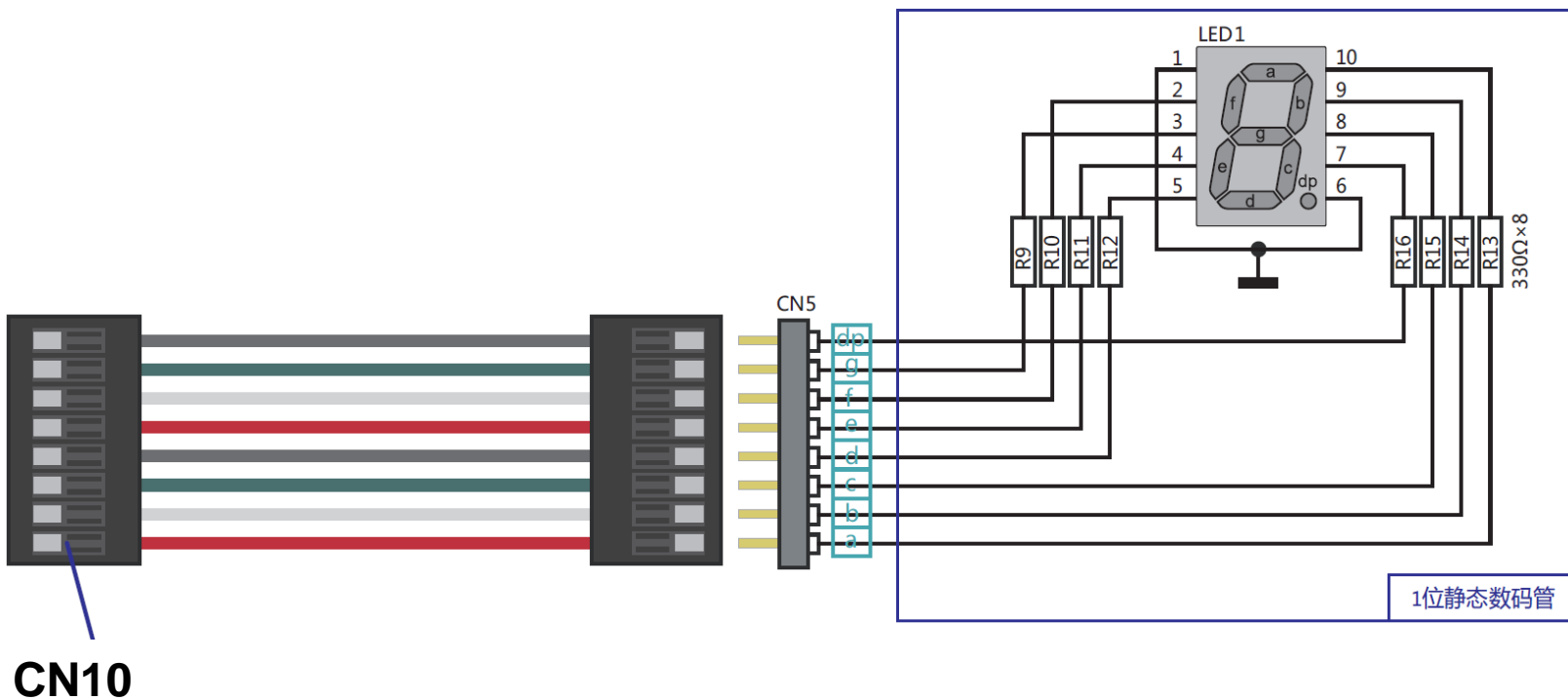


- an LED can illuminate when it is forward biased and has sufficient current flowing through it
- when configure for output, PIC18 I/O port pin can drive an LED directly (R1 is about 300Ω to 500Ω)
- 7-segment LED can be used to display decimal digit or letter



- the development kit uses common cathode display
- a high voltage, i.e. I/O pin outputs “1”, lights up the segment

Hardware Configuration



Program to display digit “0”

```
LIST      P=18F4520                      ;directive to define processor
          #include <P18F4520.INC>        ;CPU specific variable definitions
;-----
;Configuration bits definitions
;
          CONFIG    OSC = XT
          CONFIG    WDT = OFF
          CONFIG    LVP = OFF
;-----
;Reset vector
          ORG        0x0000      ;code origin, program starts from here
          goto       Main

Main:
          ORG        0x0100
          movlw      0x0F
          movwf      ADCON1
          clrf       TRISC      ;Set Port C direction output
          clrf       PORTC

Loop:
          movlw      0x3F      ;Display '0'
          movwf      PORTC
          goto       Loop
          END
```

Answer Questions 5 and 6