Prepare Pulse Accumulator Vector
From Jump Table $00CD+$1
```
        ORG     $0100
        SEI
        LDX     #$0130
        STX     $00CE
        CLI
```
Load Pulse accumulator with 15 items counted
number is then subtracted from $FF or 255
```
        LDAA    #$F0
        STAA    $1027
```
Prepare Pulse accumulator Control Register
PACTL $1026 for falling edge
```
        LDAA    #$40
        STAA    $1026
```
Prepare timer interrupt mask 2
TMSK2 $1024 for pulse accumulator overflow
```
        LDAA    #$20
        STAA    $1024
```
Continuous loop to display contents of
Pulse accumulator counter PACNT $1027
```
Pulse   LDAA    $1027
        STAA    $1004
        JMP     Pulse
```
Interrupt Service Routine
When Pulse Accumulator overflows
```
        ORG     $0130
        LDY     #$10
        LDAA    #$80
        STAA    $1004
        JSR     Slow
Spin    RORA
        STAA    $1004
        JSR     Slow
        DEY
        BNE     Spin
```
Reload pulse accumulator
```
        LDAA    #$F0
        STAA    $1027
```
Clear flag after pulse accumulator overflow
*TFLG2 $1025 *
```
        LDAA    #$20
        STAA    $1025
        RTI
```
Delay Subroutine
```
        ORG     $0160
Slow    LDX     #$FFFF
Lento   DEX
        BNE     Lento
        RTS
        END
```
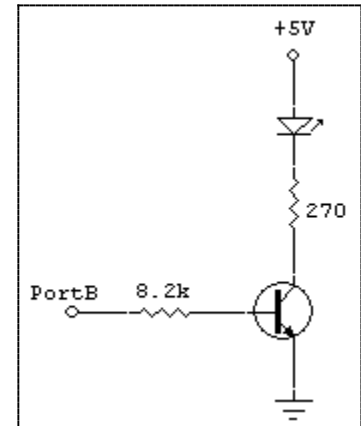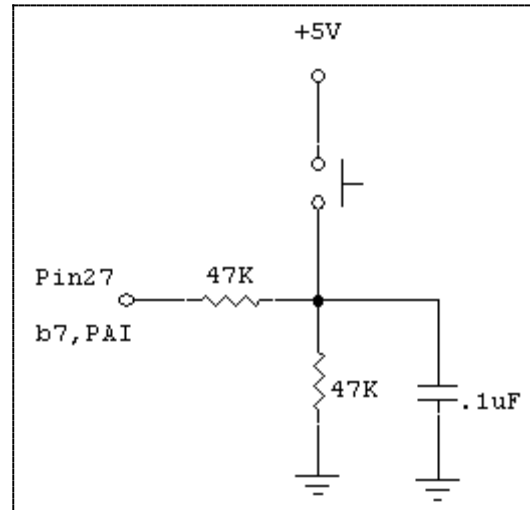
1. Connect the LED array to Port B. Connect the following circuit:

Typical circuit for 8 LED
Array Connected to Port B

2. Create , assemble, make appropriate comments and save the original program shown on the left.

3. Execute the program and observe the operation. Depress the button slowly, but sometimes quickly to simulate events occurring at different speeds.

4. Modify the program so that 10 items are counted and then an interrupt is executed. The interrupt must work in reverse of the interrupt contained in the original program.

5. List of Registers:

PACNT, Pulse accumulator counter, address: $1027
PACTL, Pulse accumulator control, address: $1026
TMSK2, Timer interrupt mask 2, address: $1024
TFLG2, Timer interrupt flag 2, address: $1025