ET 386L
Lab 7 Input Operations Port E

1. Connect the input/output assembly to the 68HC11 EVBU.

2. Refer to the pin diagram and schematic of the input/output assembly for connection details.

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

```
        ORG    $0100      ;
WATCH   LDAB   $100A      ;
        STAB   $1004      ;
        BNE    WATCH      ;

        LDAA   #$00       ;
        STAA   $1004      ;
        LDX    #$FFFF     ;

HIGH    DEX               ;
        BNE    HIGH       ;

        LDAA   #$FF       ;
        STAA   $1004      ;
        LDX    #$FFFF     ;

LOW     DEX               ;
        BNE    LOW        ;
        JMP    WATCH      ;
        END
```

4. When will the processor exit the "Watch" loop?

5. In the "Watch" loop, substitute the BNE command with BEQ. With this new command, when will the processor exit the "Watch" loop?

6. Replace the BNE in the "Watch" loop. Modify the program so that when the processor exits the "Watch" loop, all the LEDs will blink 3 times and then return to the "Watch" loop.

7. New commands: BEQ: branch if equal to zero

8. Important address: $1004 address of Port B (for output)
   $100A address of Port E (for input)