214455 : Programming Skill Development Lab

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Assignment - 3

Q1) Write a note on MPLAB IDE

Ans i) MPLAB is a proprietary freeware integrated development environment for the development of embedded applications on PIC and dsPIC microcontrollers, and is developed by Microchip Technology.

ii) MPLAB X is the latest edition of MPLAB, and is developed on the NetBeans platform.

iii) MPLAB and MPLAB X support project management, code editing, debugging and programming of Microchip 8-bit PIC and AVR microcontrollers, 16 bit PIC24 and dsPIC microcontrollers, as well as 32 bit SAM (ARM) and PIC32 (MIPS) microcontrollers

iv) MPLAB X supports automatic code generation with the MPLAB code configurator and the MPLAB Harmony configurator plugins.

Q2 Write an assembly language program for
PIC18 to multiply two 8 bit numbers using
consecutive addition.

Multiply 0x05 and 0x0A

```
    COUNT   EQU     0x30

        MOVLW  0x05
        MOVWF  COUNT
        MOVLW  0x0A   0

LOOP    ADDLW  0x0A
        DECFSZ COUNT, F
        GOTO   LOOP
```

Q3 Write an assembly language program for PIC18
to divide one 8 bit number by another 8 bit
number using consecutive subtractions.

Divide 0x0A by 0x02

```
        QUOTIENT  EQU   0x30

            MOVLW  0x0A

        LOOP  SUBLW  0x02
              INCF  QUOTIENT, F
              BN  LOOP

              DECF  QUOTIENT, F
```