# **Lab-7**

**I/O port programming of PIC microcontroller using C language**

**Objective:**

In this lab students will learn

* About the significance of programming in C language.
* How to create and simulate first project in C on MPLAB software?

**Theory**

Why program PIC in C language?

The following are some advantages for writing program in C than in assembly language.

* It is easier and less time consuming to write in C than in assembly.
* C is easier to modify and update.
* You can use code available in function libraries.
* C code is portable to other microcontrollers with little or no modifications.

Data types used in C



**Lab Exercise**

**Write a C18 program to send hex values for ASCII characters of 0,1,2,3,4,5,A,B,C, and D to port B. Also observe the output. [2]**

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**Write a C18 program to toggle all the bits of PORTC continuously. Show simulations on PROTEUS. [1]**

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**Write a C18 program to toggle all the bits of PORTC 30000 times. Show simulations on PROTEUS. [1]**

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**Write a C18 program to toggle all the bits of PORTC 30000 times with 250msec delay. Show simulations on PROTEUS. [2]**

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**Write a C18 program to monitor bit PC5. If it is low, send AAH to PORTD; otherwise send 55H to PORTD. [1]**

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**Write a C18 program to get the status of bit RB0 and send it to RC7 continuously. [1]**

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**Write a C18 program to toggle all the bits of PORTC continuously using inverting operator. Show simulations on PROTEUS. [1]**

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**Conclusion [1]**

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