A STUDY OF OPERATION OF THE PIC WITH THE USE OF C PROGRAMMING LANGUAGE AS COMPARE TO THE ASSEMBLY LANGUAGE

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ABSTRACT

The main goal of this project is to study on the operation of the PIC microcontroller with the use of C programming language as compare to the assembly language. Several types of simple instructions (programs) will be developed for testing and comparison on the simplicity and effective use of the type of instructional languages.

Two applications have been developed in C programming language and also assembly language. These applications are “T-junction Traffic Light System with Sensors” and Electronic Table Tennis”. Results and the source codes of the programs were analyzed to make comparison of the instructional languages. “T-junction Traffic Light System with Sensors” is an application that can be utilized on the T-junction road. This system will give instructions to the road user to make the transport system become more systematic. Besides that, this application contains of sensors which will detect the condition of the T-junction. The sensors will communicate with the PIC microcontroller if the condition of road met the specific condition, some special operation will be executed. With the sensors, the transport system is getting effective.

The second application is the “Electronic Table Tennis” game. This is multiplayer game which allows 2 players to play a table tennis game on a small desk. The ping-pong ball is represented by a row of 8 LEDs. The game will start to run when one of the buttons is pressed. This program is able to check whether the player breaks the rule or fails to receive the ball. The score LED will light up on the winner side.