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All of the codes are in the proteus and simulated in the protues. Note that all of the sections of the first question were merged into a single file. And all of the requirments are implemented inside a single file.

For the second section all of the codes of are put into the seperate directory. And they are also ran in protues.

1 QUESTION 1

In the first part of the question first of all we set the timer counter to the normal mode and also we set the frequency according to what is said. Then we initialize the I/O ports so that the we can use the value of the timer counters. According to the formula mentioned in the book the clock frequency will be 4 Hz so by counting it four times will reach the blinking in the half speed.

In the second part of the question we set the timer counter mode to toggle and also the only difference of this part with the previous part is that we should set the OCR0 value to the 1 inorder to make the frequency double. According to the formual mentioned in book.

2 QUESTION 2

In this question we only have to initially set the PWM mode and then by experimentally measuring the speed of motor change it to a value which is half of the amount by pressing the appropriate key.