**Preliminary work**

**EE 447: Lab #3**

Introduction to Interrupts through Stepper Motor Driving

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**Question 1)**

**A picture containing chart

Description automatically generated**

Port B Configuration for step motor

It should be noted that it is assumed PB0-3 is connected to IN1-4 pins in step motor. Also, I connected VBUS to 5V in step motor (GND to – side in step motor)

**Question 2)**

A picture containing graphical user interface

Description automatically generated

A screenshot of a computer

Description automatically generated with low confidence

Connections are given in figures. In these figures, connections are given in different colors so that it can be easily follow. In this report, SW1-4 will be used. Outputs of Stepper Motor are connected to the Stepper Motor Port of ULN2003A.

**Question 3)**

In the startup.s file, there is a change in SysTick\_Handler part. It is calling external subroutine my\_ST\_ISR, that I wrote.

Graphical user interface, application

Description automatically generated

Table

Description automatically generated

A picture containing chart

Description automatically generated

Chart

Description automatically generated with low confidence

Chart

Description automatically generated

**Question 4)**

**A picture containing application

Description automatically generated**

A screenshot of a computer

Description automatically generated with low confidence

Connections are given in figures. In these figures, connections are given in different colors so that it can be easily follow. In this report, SW1-4 will be used. Outputs of Stepper Motor are connected to the Stepper Motor Port of ULN2003A. Also, it should be noted that there is only one change in connections. That is pb6 and pb7 are connected to SW3 and SW4.

**Question 5)**

Delaying subroutine, DELAY100, is the same in question 3.

In the startup.s file, there is a change in SysTick\_Handler part. It is calling external subroutine my\_ST\_ISR, that I wrote.

Graphical user interface, text, application

Description automatically generated

Table

Description automatically generated with medium confidence

NOTE: There is an END command at the end

Chart

Description automatically generated with low confidence

A picture containing text

Description automatically generated

Chart

Description automatically generated with low confidence

Diagram

Description automatically generated

Diagram

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