Mini Project 04
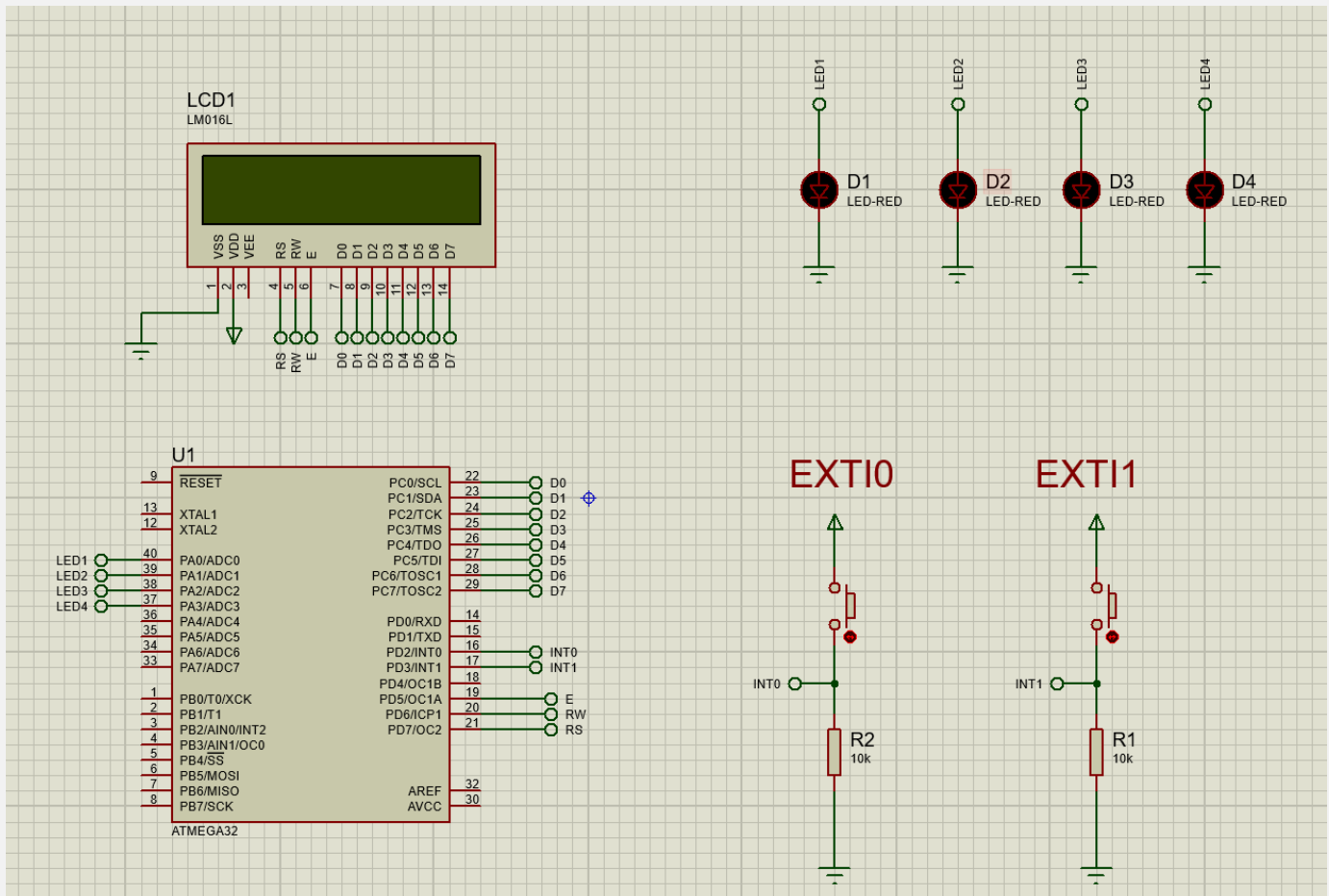
EXTI - AVR
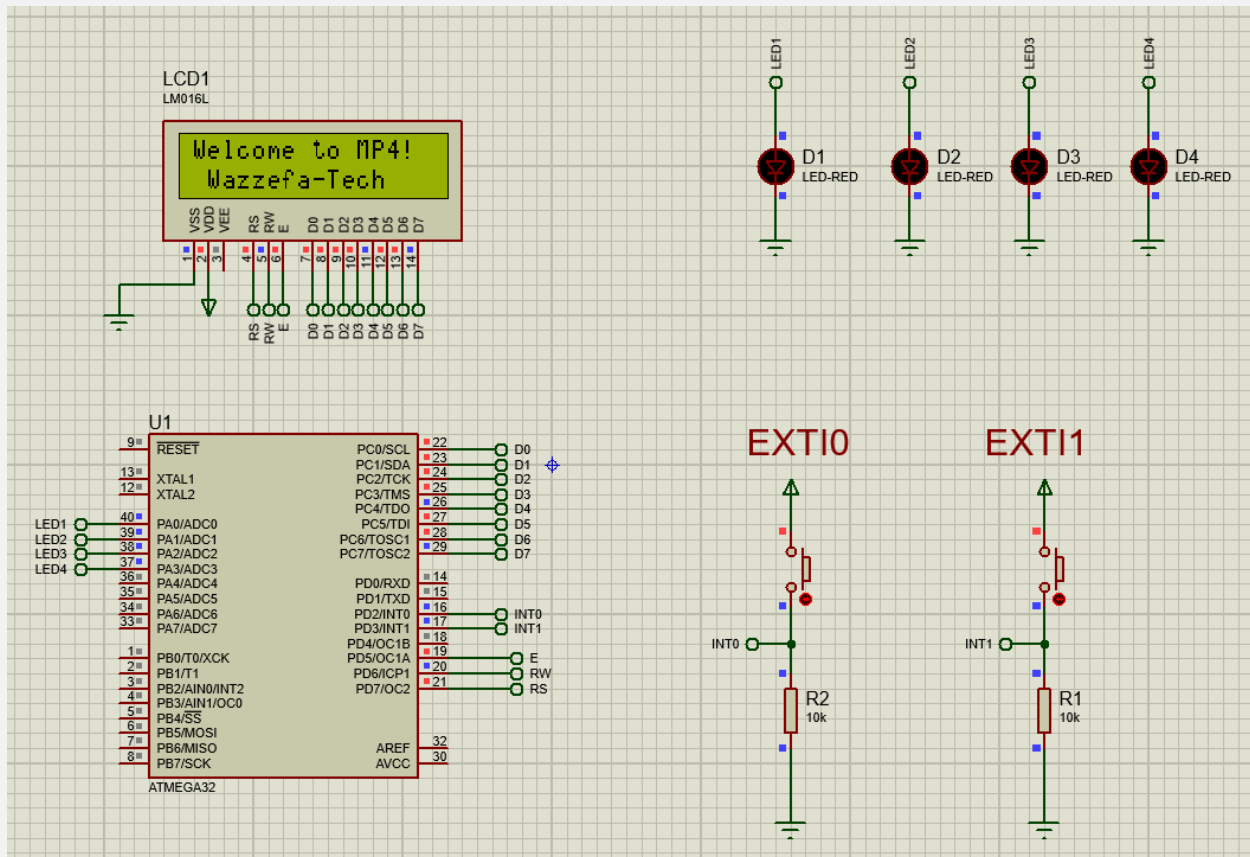
Description:

o   Connect the circuit as the following

When you run the program; the LCD displays welcome message which it is the main program.
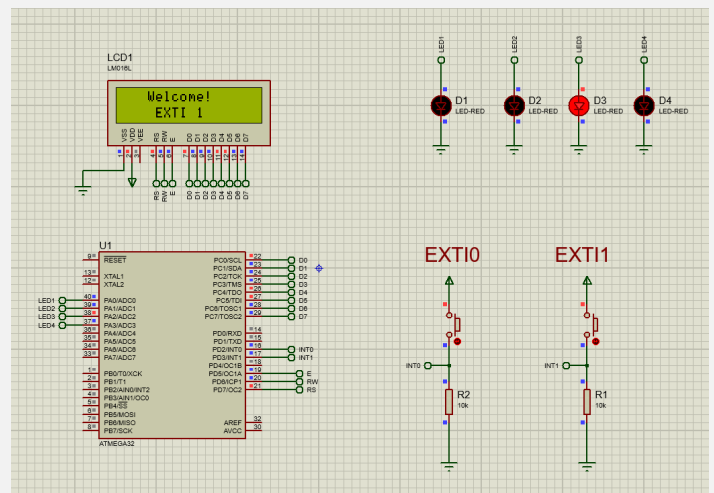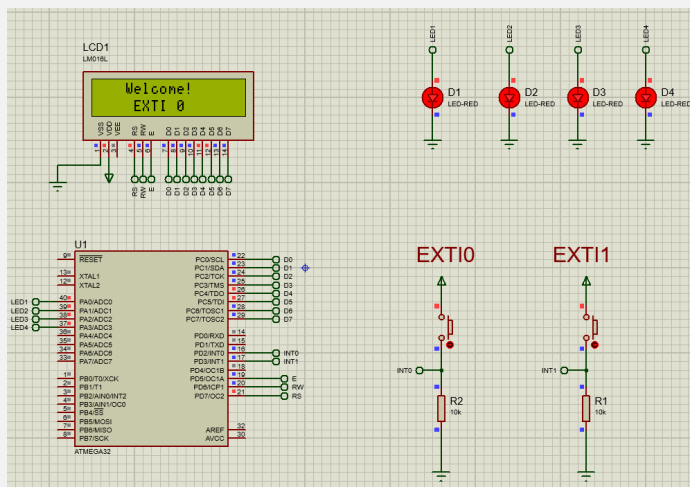

As you know INT0 has higher priority than INT1:

Table 18. Reset and Interrupt Vectors

Vector No.	Program Address[2]	Source	Interrupt Definition
1	$000[1]	RESET	External Pin, Power-on Reset, Brown-out Reset, Watchdog Reset, and JTAG AVR Reset
2	$002	INT0	External Interrupt Request 0
3	$004	INT1	External Interrupt Request 1
4	$006	INT2	External Interrupt Request 2
5	$008	TIMER2 COMP	Timer/Counter2 Compare Match
6	$00A	TIMER2 OVF	Timer/Counter2 Overflow
7	$00C	TIMER1 CAPT	Timer/Counter1 Capture Event
8	$00E	TIMER1 COMPA	Timer/Counter1 Compare Match A

○ Make two handlers, one for EXTI0 and the other for EXTI1
○ The two handlers will manipulate the leds in any blinking manner (Make your handlers as you want)
○ If you press the Push bottom of EXTI 0 it will handle the EXTI 0
○ If you press the Push bottom of EXTI 1 it will handle the EXTI 1
○ If you press the Push bottom of EXTI 1 then press the Push bottom of EXTI 0 (before handler of EXTI 1 finishing), it will interrupt the Handler of EXTI 1 and will jump to execute the handler of EXTI 0 first then handles handler of EXTI 1 (as it has lowest priority).
○ If you press the Push bottom of EXTI 0 then press the Push bottom of EXTI 1 (before handler of EXTI 0 finishing), handler of EXTI 0 will not be interrupted (as it has the highest priority) then after finishing it, it will handle the pending handler of EXTI 1.
○ LCD will print message when the CPU are handles handler of EXTI 0 or handler of EXTI 1.

Drivers:

- o DIO
- o GIE
- o EXTI
- o LCD

Libraries:

- o BIT_MATH.h
- o STD_Types.h
- o avr/delay.h

Requirements:

1. Screen recording video with detailed explanation of the mini project with voice over and share it with the group.
2. In your Drive, in mini project 4 folder upload:
   2.1. Main.c
   2.2. The Video with your VO

Deadline:

Saturday: 30/03/2024 at 11:59 pm