# DigitalClock\_AVR32

Digital Clock Based on Atmel Atmega32 MC a Mini Project for Summing up Interfacing 1 Course by Edges for Training -MT Diploma.

The clock has three seven-segment displays to show the hours, minutes, and seconds. It also has a buzzer that sounds every minute.

# Requirements

1. Use ATmega32 Microcontroller with frequency 1Mhz.

2. Configure Timer1 in ATmega32 with CTC mode to count the Stop Watch time.

3. Use six Common Anode 7-segments.

4. Connect 7447 decoder 4-pins to the first 4-pins in PORTC

Use first 6-pins in PORTA as the enable/disable pins for the six 7-segments

3. Stop Watch counting should start once the power is connected to the MCU.

3. Configure \*External Interrupt INT0\* with falling edge. Connect a push button with the internal pull-up resistor. If a falling edge detected the Stop Watch time should be reset.

3. Configure \*External Interrupt INT1\* with raising edge. Connect a push button with the external pull-down resistor. If a raising edge detected the Stop Watch time should be paused.

3. Configure \*External Interrupt INT2\* with falling edge. Connect a push button with the internal pull-up resistor. If a falling edge detected the Stop Watch time should be resumed

# Project Covers

- Shifting and bit masking

- Pre Processor Directives

- Interrupts

- Timer

- GPIO