

```

/// @def binary position for one hours segment transistor input.
#define SEG_ONE_HOUR 4
/// @def binary position for ten minutes segment transistor input.
#define SEG_TEN_HOUR 8

/// @def Clock DOT LED transistor input.
#define DOT_LED P1_6
/// @def Clock display LED for alarm on/off transistor input.
#define ALARM_LED P1_7

/// @def Switch alarm set location.
#define SET_A_SWITCH P3_4
/// @def Switch time set location.
#define SET_T_SWITCH P3_3
/// @def Switch Hour increment location.
#define HOUR_SWITCH P3_0
/// @def Switch Minute increment location.
#define MINUTE_SWITCH P3_1
/// @def Switch alarm on/off location.
#define ALARM_SWITCH P3_2

/// @def MIN_DELAY minimum delay for switch press.
#define MIN_DELAY 75
/// @def INIT_DELAY initial delay for switch press when setting time.
#define INIT_DELAY 125
/// @def RAMP_DELAY ramp for initial delay to decrease with time to speed up time set when held.
#define RAMP_DELAY 5
/// @def TONE_TIME time for tone to stay activated in milliseconds before next tone.
#define TONE_TIME 250

/// @brief 7 segment lookup table A=0,B=1,C=2,D=3,E=4,F=5,G=6
const uint8_t segmentArray[] = {0x3F, 0x06, 0x5B, 0x4F, 0x66, 0x6D, 0x7D, 0x07, 0x7F, 0x6F};

/// @def Sturct to hold time elements for alarm and current time.
struct time
{
    uint8_t one_minutes;
    uint8_t ten_minutes;
    uint8_t one_hours;
    uint8_t ten_hours;
};

/// @brief Global variable for digit selection.
volatile uint8_t digitSelect = 1;
/// @brief Global variable to keep count of the number of milliseconds a switch is pressed.
volatile uint8_t switchTimeout = 0;
/// @brief Global variable to hold the initial time that is reduced by ramp_delay.
volatile uint8_t initTimeout = INIT_DELAY;
/// @brief Global variable to hold the number of milliseconds passed.
volatile uint16_t milliseconds = 0;
/// @brief Global variable to hold the number of previous milliseconds passed.
volatile uint16_t prev_milliseconds = 0;
/// @brief Global variable to hold the number of seconds passed.
volatile uint8_t seconds = 0;
/// @brief Global struct to hold the current time.
volatile struct time gs_timeKeeper = {0,0,0,0};
/// @brief Global struct to hold the current alarm set time
volatile struct time gs_alarmKeeper = {0,0,0,0};
/// @brief Global variable to tell if the alarm is on.
volatile uint8_t alarm_on_off = OFF;

```