```
int main (void){

setup_HW_Arduino_IO;
set_up_PCI;
enable_PCI;

disable_PCI_on_sw1_and_sw3;                                  //pci on sw1 & 3 not required
{char digit_num=0; for (int m = 0; m < 8; m++)               //initialise display by
{I2C_Tx_any_segment('d', digit_num++);}}                     //illuminating seg "d" on each digit

while(switch_1_up && switch_3_up);                           //wait for a keypress
I2C_Tx_any_segment_clear_all();                              //clear display
if(switch_1_down){I2C_Tx_Clock_command(one100ms_mode);}      //sw_1 selects 100ms clock
if(switch_3_down){I2C_Tx_Clock_command(ten_ms_mode);}        //sw_3 selects 10ms clock
Timer_T0_10mS_delay_x_m(5);                                  //50ms delay for switch bounce
while(switch_1_down || switch_3_down);                       //wait for switch release

TIMSK1 |= (1 << TOIE1); sei();                               //Enable timer 1 interrupt

while(1){                                                   //Infinite loop, requires sw2 interrupt to exit
while(switch_1_up && switch_3_up);                          //wait for a keypress

if(switch_3_down)
{I2C_Tx_Clock_command(store_time);                           //save time and pause clock display
while (switch_3_down);                                      //wait for key release
I2C_Tx_Clock_command(display_current_time);}                //clock display continues as normal

Timer_T1_sub_with_interrupt(T1_delay_50ms);                  //50mS pause: avoids switch bounce
while(T1_ovf_flag == 0);T1_ovf_flag = 0;                    //T1_ovf_flag is reset by T1 ISR after a 50ms delay

if(switch_1_down)                                           //read stored times at 200ms intervals
{I2C_Tx_Clock_command(display_stored_times);                //if sw1 is held down
Timer_T0_10mS_delay_x_m(20);}
if(switch_1_down && switch_3_down)                          //press sw3 while sw1` is still held down to
{I2C_Tx_Clock_command(display_current_time);                //continue clock display
while(switch_1_down || switch_3_down);}}}                     //wait until both switches have been released
```