```c
#include "Proj_2G_header_file.h"        //See this file for the definitions of the digits 0 to 9

int main (void){

char   digit;
int digit_num=0;                          //defines number of next digit on the display
const char* string_ptr = 0;              //pointer: will be loaded with the address of an array
setup_HW;                                 //(i.e. the address of the first segment in array "zero" or "one" or "two" etc....)
User_prompt;                              //Press R or r to exit (pauses program execution while user launches a terminal program)
String_to_PC("Send digits?");
while(1){                                //Infinite loop
digit_num = 0;                           //First digit on display
while (digit_num <= 7){                  //start of "while();" loop used to fill up the display with 8 digits
digit = waitforkeypress();               //user enters digit (0 to 9) at the PC keyboard

switch(digit){                           //The appropriate address is loaded into location "string_pointer"
case '0': string_ptr = zero; break;      //The address of array zero is loaded into location "string_ptr"
case '1': string_ptr = one; break;
case '2': string_ptr = two; break;
case '3': string_ptr = three; break;
case '4': string_ptr = four; break;
case '5': string_ptr = five; break;
case '6': string_ptr = six; break;
case '7': string_ptr = seven; break;
case '8': string_ptr = eight; break;
case '9': string_ptr = nine; break;
default: continue; break;}                                          //Illegal key press: Go immediately to the start of the do loop
                                                                    //Send the address of the required string to subroutine "display_num_string();"
display_num_string(string_ptr, digit_num);digit_num++;}             //End of "while();" loop
waitforkeypress();I2C_Tx_any_segment_clear_all();}}                 //clear display and repeat

/*****************************************************************************************************************************************************/
void display_num_string (const char* s, int digit_num){             //Subroutine requires a pointer to the string
int char_ptr=0;                                                     //containing segments used to define a digit
char letter;

while(1){
letter = *(s + char_ptr);// (s[char_ptr]);                          //Note these two expressions are equivalent
switch(letter){                                                     //Work through the segments contained in the
case 'a':                                                           //string until '\0' is encountered
case 'b':
case 'c':
case 'd':
case 'e':
case 'f':
case 'g': I2C_Tx_any_segment(letter, digit_num);break;              //update display one segment at a time
case 0:  return; break;                                             //zero indicates the end of the string
default: break;}char_ptr++;}}                                       //incrementing "char_ptr" steps through the string
                                                                    //Selecting segment letters in turn
```