/\*

 \* main.c for the MIPSfpga core running on a Nexys4 DDR FPGA board.

 \*

 \* Writes a sequence of increasing numbers to the 8 7-segment displays.

 \*/

#include "mfp\_io.h"

#include "fdc.h"

void delay();

//------------------

// main()

//------------------

int main() {

 volatile unsigned int i, cnt = 0;

 volatile unsigned int allDigits = 0;

 fdc\_init();

 fdc\_printf("Starting program.");

 MFP\_7SEGEN = 0; // enable all 7-segment displays

 while(1) {

 // write increasing values to each 7-segment display digit

 for (i=0; i<8; i++) {

 allDigits |= (cnt&0xF)<<(i\*4);

 cnt++;

 }

 MFP\_7SEGDIGITS = allDigits;

 fdc\_printf("Value of digits: 0x%x\n", allDigits);

 allDigits = 0;

 delay();

 }

 return 0;

}

void delay() {

 volatile unsigned int j;

 for (j = 0; j < (9000000); j++) ; // delay

}

void \_mips\_handle\_exception(void\* ctx, int reason) {

 MFP\_LEDS = 0x8001; // Display 0x8001 on LEDs to indicate error state

 while (1) ;

}