/\*

\* main.c

\*/

#include <stdio.h>

#include "usbstk5515.h"

#define IR\_length 12

#define In\_length 12

#define tmp\_l IR\_length+In\_length-1

Int16 x[In\_length] = {1, 1, 1, 2, 2, 2, 3, 3, 3, 1, 1, 1};

Int16 array[tmp\_l]; // made for output

void linearbuff();

Int16 \*inPtr;

Int16 \*outPtr;

Int16 \*coeff;

Int16 coefs[IR\_length] = {1, 1, 1, 2, 2, 2, 3, 3, 3, 1, 1, 1};

Int16 conv[tmp\_l] ={0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0};

Int16 input;

Int16 output;

void linearbuff(void)

{

int i;

long int accumulator=0;

static Int16 buffer[In\_length]={0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0};

/\*

write convolution code here;

\*/

((Int16)accumulator) = convolution();

(\*outPtr)=((Int16)accumulator);

}

float convolution(void)

{

int i,k;

for(i=0;i<tmp\_l;i++)

{

for(k=0;k<IR\_length;k++)

{

conv[i] = conv[i] + x[k]\*coefs[i-k];

}

return conv[i];

}

}

main(void)

{

int j=0;

coeff = &coefs[0]; //coefs is coefficient of impulse response defined in fdacoefs\_int.h

inPtr = &input; //inPtr is a globally declared pointer to a Int16

outPtr = &output;

// SYS\_EXBUSSEL = 0x6100;

// USBSTK5515\_init( );

//temp\_length=IR\_length+In\_length-1;

//static Int16 inbuffer[In\_length]={0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0};

while(j<tmp\_l) // loop

{

/\* Read input data using a probe-point connected to a host file. \*/

//printf("x=%d\n",x[j]);

//input=x[j];

//write your code for function call;

linearbuff();

array[j]=output;

printf("output=%d\n",array[j]);

j=j+1;

}

return 0;

}

/\*

\* FUNCTION: Read input signal and write processed output signal

\* using ProbePoints

\* PARAMETERS: none.

\* RETURN VALUE: none.

\*/

/\*static void dataInput()

{

do data I/O

return;

}\*/