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#include "Proj_3E_header_file.h"

int main (void){
    long Num_1;
    char digits[8];
    int counter = 0;

    setup_HW;
    User_prompt;

    String_to_PC("Enter positive number & terminate with Return key.\r\n");
    Num_1 = Num_from_KBD_Local(digits); //Acquires data from keyboard

    do{
        Num_to_PC(10,++counter); Char_to_PC('\t');Num_to_PC(10,Num_1); newline(); //Converts numbers strings and sends them to the pc.
        I2C_Tx_long(Num_1); //Sends number to the display
        waitforkeypress();
        Num_1 = (Num_1 / 2) *3; while (Num_1 < 66666666); //Do some arithmetic

        Num_1 = (Num_1 / 3) *2;

    }do{Num_1 = (Num_1 / 3) *2; //Do the arithmetic in reverse
        Num_to_PC(10,--counter); Char_to_PC('\t');Num_to_PC(10,Num_1); newline();
        I2C_Tx_long(Num_1);
        waitforkeypress();}while (counter-1);}

    /***/
    long Num_from_KBD_Local(char digits[]){ //Local version, ignores negative number
        unsigned char keypress; //Resources version does not.
        for(int n = 0; n<=7; n++) digits[n] = 0; //Clear array

        do
        {keypress = waitforkeypress(); //wait for first keypress
        while (!(decimal_digit(keypress))); //Ignore illegal characters
        digits[0] = keypress; //Save first one to array
        I2C_Tx_8_byte_array(digits); //send array to display
        while ((keypress = wait_for_return_key()) != '\r'){ //Continue until return key is pressed

            if (decimal_digit (keypress)) //Ignore illegal characters
            {for(int n = 7; n>=1; n--)digits[n] = digits[n-1]; //Shifts display left for each keypress
            digits[0] = keypress; //Places new digit in array[0]
            I2C_Tx_8_byte_array(digits);}} //Updates the display
        newline();
        return I2C_displayToNum();}

    //Mini-OS converts display to a long number and sends it to the UNO.

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