```c
/*
 * A_to_Z_async_Tx.c
 *
 * Created: 2/27/2022 2:59:16 PM
 * Author : jason
 */

#define F_CPU 4000000
#define USART3_BAUD_RATE(BAUD_RATE) ((float)(F_CPU * 64 / (16 *(float)BAUD_RATE)))  //Calculation of baud rate from data sheet
#include <avr/io.h>
#include <util/delay.h>

//Header functions
void USART3_sendChar(char c);

char uppercaseLetters = 'A';


int main(void)
{
    PORTB.DIR |= PIN0_bm;  //Set PB0 as output (TX pin)
    USART3.BAUD = (uint16_t)USART3_BAUD_RATE(9600);   //Taken from data sheet to calculate baud rate
    USART3.CTRLB |= USART_TXEN_bm;  //Enable USART transmitter

    while (1)
    {
        while(uppercaseLetters <= 'Z'){
            //Send an uppercase character to the Tera Term (TX pin)
            USART_sw_write(uppercaseLetters);
            if(uppercaseLetters == 'Z'){
                uppercaseLetters = uppercaseLetters - 26;
                USART_sw_write(0x0A);    //Go to next line after 'Z' is printed
                //Move the cursor back by 26 spaces to the start of next line
                for(int i = 0; i < 26; i++){
                    USART_sw_write(0x08);
                }
            }
            _delay_ms(1);   //Wait in a loop to send character again
            uppercaseLetters++;
        }
    }
}


//Function to be able to transmit characters
//to the TX pin and display on the Tera Term
void USART_sw_write(char c)
{
    //Poll until the  transmit buffer register are empty
    //when they contain data that has not been moved to
```

```
    //transmit shift register
    while (!(USART3.STATUS & USART_DREIF_bm))
    {
        ;
    }
    //Load data to transmit shift register and
    //output each of the bits serially to the TXD pin
    USART3.TXDATAL = c;
}
```