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/*
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|
| Date:                2019-10-22
|_____
|
| Author:
|   Student name 1:    Einar van de Velde
|   Student name 2:    Abdulla Mehdi
|_____
|
| Lab number:          6.
| Title:               Task 1.
|_____
|
| Other information:
| Changes in program:
|   File Created (2019-10-22)
|   Program is runnable (2019-10-22)
|_____
|*/

```

```

#include<avr/io.h>
#define F_CPU 1843435UL
#include<util/delay.h>

#include<stdio.h>
#include<string.h>

#define CLOCK 1000432
#define SPEED 2400
#define VALUE ((CLOCK)/16UL/(SPEED) - 1)

```

```

void Initialize(unsigned int ubrr);
void Transmit(unsigned char data);
unsigned int CheckSum(char* str);

```

```

int main(void) {
    UBRR0 = 25;
    DDRB = 0xff;
    PORTB = 0x00;

    Initialize(VALUE);
    Transmit(0x0d);
    Transmit('A');
    Transmit('0');
    Transmit('0');
    Transmit('0');
    Transmit('0');
    Transmit('0');
    Transmit('1');
    Transmit('A');
    Transmit('9');
    Transmit('F');
    Transmit(0x0A);

    Transmit(0x0d);
    Transmit('Z');
}

```

```

        Transmit('D');
        Transmit('0');
        Transmit('0');
        Transmit('1');
        Transmit('3');
        Transmit('C');
        Transmit(0x0A);
    }

    void Initialize(unsigned int ubrr) {
        UBRRH = (unsigned char)(ubrr >> 8);
        UBRRL = (unsigned char)ubrr;
        UCSRB = (1 << RXEN0) | (1 << TXEN0);
        UCSRC = (1 << UCSZ00) | (1 << UCSZ01);
    }

    void Transmit(unsigned char data) {
        while((UCSR0A & (1 << UDRE0)) == 0);           // Wait until
                                                         // Register is
                                                         // not empty.
        UDR0 = data;                                     // Load data to
                                                         // Register.
    }

    unsigned int CheckSum(char* str) {
        unsigned int temp = 0;
        char checkSum[12];

        while (*str) {
            temp += *str;
            str++;
        }

        return temp %256;                                // Modulo 256
    }

```