src\main.c

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1
2   // task 3, EMB1 assignment 4
3
4   #include <stdio.h>
5   #include <avr/io.h>
6   #include <util/delay.h>
7
8   #include "usart.h"
9
10  int main(void) {
11
12      uart_init(); // open the communication to the microcontroller
13      io_redirect(); // redirect input and output to the communication
14
15      unsigned int n,i; //set up variables; n is the number being divided, i is for the for loop
16
17      while(1) { //start program loop
18          printf("Type in a number \n"); //print message for user
19          scanf("%d",&n); //get number
20
21          for(i=2;i<=n/2;i++) //start divisor loop. starts at 2 because 1 divides all numbers, and
    goes to n/2, because that's the largest divisor of any number
22          {
23              if(n%i==0) //when i divides n cleanly (the rest of the division is 0), the program prints
    the divisor it got
24                  printf("number is divisible with %d \n",i);
25          }
26      }
27      return 0;
28  }
29
```