Aufgabe 1:

CMakeLists.txt | main.c

```c
#include <stdio.h>

int iterative(int a, int b) {
    int r;
    do {
        r = a % b;
        a = b;
        b = r;
    } while (b != 0);

    return a;
}

int recursive(int a, int b) {
    if (b == 0)
        return a;
    return recursive(a: b, b: a % b);
}
```

← Iterative

performanter
weniger Risiko für
Stack overflow

← recursive

Rekursive Funktion elegante

```c
int kgV_func(int a, int b) {
    int val = iterative(a, b);
    return (abs(x: a * b) / val);
}

int main(void) {
    // Werte sind: a, b, a*b, ggT(a,b). kgV(a,b)
    for (int a = 30; a <= 40; a++) {
        for (int b = 30; b <= 40; b++) {
            int product = a * b;
            int it = iterative(a, b);
            int kgV = kgV_func(a, b);
            printf( format: "%d %d %d %d %d\n",
                    a, b, product, it, kgV);
        }
    }
    return 0;
}
```

```
40 35 1400 5 280
40 36 1440 4 360
40 37 1480 1 1480
40 38 1520 2 760
40 39 1560 1 1560
40 40 1600 40 40

Process finished with exit code 0
```

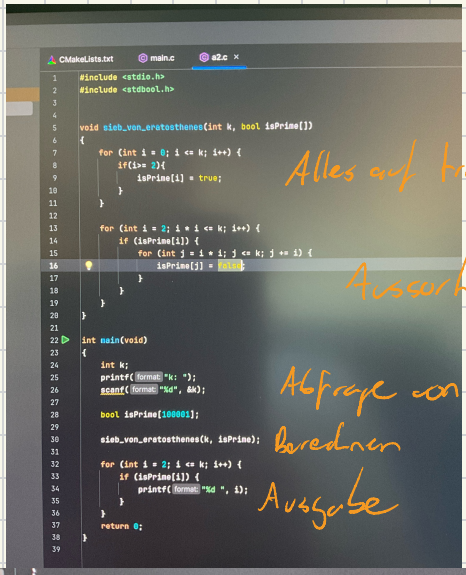
Was fällt auf?

$$a \cdot b = ggT(a,b) \cdot kgV(a,b)$$

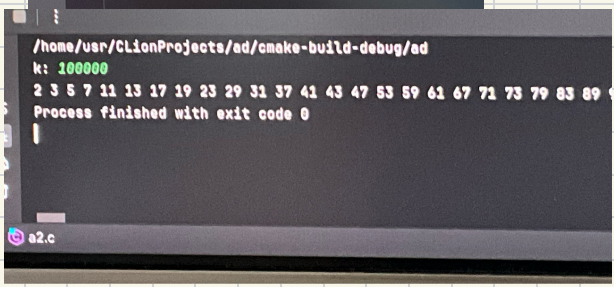
Aufgabe 2:

1)

2)



3)



Aufgabe 3:

Datei a3.c

Mit Tutor besprochen

- Evtl. nächstes mal mit Klasse