

a, b

Algorithm Euklides NWD

120, 45

$$120 = \underline{45} \cdot 2 + \underline{30}$$

$$45 = \underline{30} \cdot 1 + \underline{15}$$

$$30 = \underline{15} \cdot 2$$

$$\text{NWD}(120, 45) = 15$$

$$\underline{a} = \underline{b} \cdot \underline{q} + \underline{r}$$

$$\text{NWD}(a, b) = \text{NWD}(b, r)$$

$$b = \underline{r} \cdot \underline{q}_1 + \underline{r}_1$$

$$r = \underline{r}_1 \cdot \underline{q}_2 + \underline{r}_2$$

.....

$$\underline{r}_i = \underline{r_{i+1}} \cdot \underline{q_{i+2}} \Rightarrow \text{NWD} = r_{i+1}$$

$$b = b - \underbrace{r - r' \dots - r}_{q_1}$$

def NWD(a, b):

while b:

$$a, b = b, a \% b$$

return a

while b != 0
temp = b
b = a % b
a = temp