

$$34 = 2 \cdot 13 + 8$$

$$13 = 8 + 5$$

$$8 = 5 + 3$$

$$5 = 3 + 2$$

$$3 = 2 + \boxed{1}$$

$$2 = 2 \cdot 1 + 0$$

$$1 = 3 - 2$$

$$1 = 3 - (5 - 3) = 2 * 3 - 5$$

$$1 = 2 * (8 - 5) - 5 = 2 * 8 - 3 * 5$$

$$1 = 2 * 8 - 3 * (13 - 8) = 5 * 8 - 3 * 13$$

$$\begin{aligned} 1 &= 5 * (34 - 2 * 13) - 3 * 13 = 5 * 34 - 10 * 13 - 3 * \\ 13 &= 5 * 34 - 13 * 13 \end{aligned}$$

$$\text{Gcd}(34, 13) = 5 * 34 - 13 * 13$$