

$$\begin{aligned}
 r_0 &= r_1 q_1 + r_2 \\
 &\vdots
 \end{aligned}$$

$$r_{k-3} = r_{k-2} q_{k-2} + r_{k-1}$$

$$r_{k-2} = r_{k-1} q_{k-1} + r_k$$

$$r_{k-1} = r_k q_k$$