

$n = 5$	$q <= n$	$n \% q == 0$	$q = q + 1$	output
$q = 1$	$q <= 5$	$5 \% 1 == 0$	$q = 1 + 1$	factor 1
	$2 <= 5$	$5 \% 2 \neq 0$ F	$q = 2 + 1$	
	$3 <= 5$	$5 \% 3 \neq 0$ F	$q = 3 + 1$	
	$4 <= 5$	$5 \% 4 \neq 0$ F	$q = 4 + 1$	
	$5 <= 5$	$5 \% 5 == 0$		factor 5