Tarefa 3: Exponenciação Rápida

Calcule $a^{e-1} \pmod e$ para $e \in \{3,5,7\}$ e $a \in \{1,2,3,4,5\}$

$1^{3-1} \pmod 3$
$1^2 = 1.1 = \boxed{1}$

$1^{5-1} \pmod 5$
$1^4 = 1^2.1^2 = 1.1 = \boxed{1}$
$1^2 = 1.1 = 1$

$1^{7-1} \pmod 7$
$1^6 = 1^3.1^3 = 1.1 = \boxed{1}$
$1^3 = 1.1.1 = 1$

$2^{3-1} \pmod 3$
$2^2 = 2.2 = 4 = \boxed{1}$

$2^{5-1} \pmod 5$
$2^4 = 2^2.2^2 = 4.4 = 16 = \boxed{1}$
$2^2 = 2.2 = 4$

$2^{7-1} \pmod 7$
$2^6 = 2^3.2^3 = 1.1 = \boxed{1}$
$2^3 = 2.2.2 = 8 = 1$

$3^{3-1} \pmod 3$
$3^2 = 3.3 = 9 = \boxed{0}$

$3^{5-1} \pmod 5$
$3^4 = 3^2.3^2 = 4.4 = 16 = \boxed{1}$
$3^2 = 3.3 = 9 = 4$

$3^{7-1} \pmod 7$
$3^6 = 3^3.3^3 = 6.6 = 36 = \boxed{1}$
$3^3 = 3.3.3 = 27 = 6$

$4^{3-1} \pmod 3$
$4^2 = 4.4 = 16 = \boxed{1}$

$4^{5-1} \pmod 5$
$4^4 = 4^2.4^2 = 1.1 = \boxed{1}$
$4^2 = 4.4 = 16 = 1$

$4^{7-1} \pmod 7$
$4^6 = 4^3.4^3 = 1.1 = \boxed{1}$
$4^3 = 4.4.4 = 64 = 1$

$5^{3-1} \pmod 3$
$5^2 = 5.5 = 25 = \boxed{1}$

$5^{5-1} \pmod 5$
$5^4 = 5^2.5^2 = 0.0 = \boxed{0}$
$5^2 = 5.5 = 25 = 0$

$5^{7-1} \pmod 7$
$5^6 = 5^3.5^3 = 6.6 = 36 = \boxed{1}$
$5^3 = 5.5.5 = 125 = 6$