

Give a number of multiplications used by your function to calculate  $x^{63}$ . Justify

**exponentiation( $x = 1$ ,  $n = 63$ )**

**loop 1:**

$x = 1$

$n = 63$

**loop 2:**

$x = 1$

$n = 31$

**loop 3:**

$x = 1$

$n = 15$

**loop 4:**

$x = 1$

$n = 7$

**loop 5:**

$x = 1$

$n = 3$

**loop 6:**

$x = 1$

$n = 1$