

What is the Last Digit of 2^{100} ?

$$2^0 = 1$$

$$2^1 = \underline{2}$$

$$2^2 = \underline{4}$$

$$2^3 = \underline{8}$$

$$2^{\boxed{4}} = \underline{16}$$

$$4 \div 4 = 1$$

* The pattern repeats after the exponent is divisible by "4"

$$2^5 = 3\underline{2}$$

$$2^6 = 6\underline{4}$$

$$2^7 = 12\underline{8}$$

$$2^{\boxed{8}} = 25\underline{6}$$

$$8 \div 4 = 2$$

So, $2^{100} = \dots \underline{6}$ $100 \div 4 = 25$

$$2^9 = 51\underline{2}$$

$$2^{10} = 102\underline{4}$$

$$2^{11} = 204\underline{8}$$

$$2^{\boxed{12}} = 409\underline{6}$$

$$12 \div 4 = 3$$

$$2^{13} = 819\underline{2}$$

$$2^{20} = 104857\underline{6}$$

$$20 \div 4 = 5$$