

R - 5.4.

$$\text{power}(2, 0) = 1$$

$$\text{power}(2, 1) = \cancel{2} \text{power}(2, 0) \text{ } \cancel{=} \text{power}(2, 0) = 1 * 1 = 1$$

$$1 \% 2 = 1$$

$$\Rightarrow \text{power}(2, 1) = 1 * 2 = 2$$

$$\text{power}(2, 2) = \text{power}(2, 1) * \text{power}(2, 1) = 2 * 2 = 4$$

$$2 \% 2 \neq 1$$

$$\Rightarrow \text{power}(2, 2) = 4$$

$$\text{power}(2, 4) = \text{power}(2, 2) * \text{power}(2, 2) = 4 * 4 = 16$$

$$4 \% 2 \neq 1$$

$$\Rightarrow \text{power}(2, 4) = 16$$

$$\text{power of}(2, 9) = \text{power}(2, 4) * \text{power}(2, 4) = 16 * 16 = 256$$

$$9 \% 2 = 1$$

$$\Rightarrow \text{power}(2, 9) = 256 * 2 = 512$$

$$\text{power of}(2, 18) = \text{power of}(2, 9) * \text{power}(2, 9) = 512 * 512 = 262144$$

$$\Rightarrow 18 \% 2 \neq 1 \Rightarrow \text{power}(2, 18) = 262144$$