

$$K = 2, >$$

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

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

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

$$\text{power}(2, 3) = 2^{\#} \text{power}(2, 2) = 2^{\#} 4 = 8$$

$$\text{power}(2, 4) = 2^{\#} \text{power}(2, 3) = 2^{\#} 8 = 16$$

$$\text{power}(2, 5) = 2^{\#} \text{power}(2, 4) = 2^{\#} 16 = 32$$