

$$1-) T(n) = T(n/2) + 1$$

$$T(n) = \log(n)$$

$$= O(\log(n))$$

$$2-) T(n) = T(n/4) + 1$$

$$n^{\log_4 1} = 1$$

$$n^{\log_4 1} \cdot \log(n)$$

$$= O(\log(n))$$

$$3-) T(n) = O(n^2) \quad \Omega(n^2)$$

$$4-) T(n) = (n-1)(T(n-1)) + 1$$

$$= O(n!)$$

$$5-) T(n) = 2T(n/2) + n$$

$$= O(n \log n)$$