

ADA

SOWMYA .D. V.

$$T(n) = aT(n/b) + c * n^d$$

1)  $T(n)$

$$= 8T(n/2) + 1000n^2$$

$$a=8 \quad b=2 \quad c=1000 \quad d=2$$

$$b^d = 4$$

$$a > b^d$$

$$T(n) \leftarrow n^{\log_2 a}$$

$$T(n) \leftarrow n^{\log_2 8}$$

$$T(n) \leftarrow n^3$$

2)  $T(n) = 2T(n/2) + n^2$

$$T(n)$$

$$a=2 \quad b=2 \quad d=2$$

$$a < b^d$$

$$2 < 4$$

$$T(n) \in n^d$$

$$T(n) \in n^2$$

3)  $T(n) = 2T(n/2) + 10n$

$$a=2 \quad b=2 \quad d=1$$

$$a = b^d$$

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



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$$T(n) = aT(n/b) + c * n^d$$

16  $T(n)$   
 $= 8T(n/2) + 1000n^2$   
 $a=8 \quad b=2 \quad c=1000 \quad d=2$

$$b^d = 4 \quad a > b^d$$

$$T(n) \leftarrow n^{\log_2 a}$$

$$T(n) \leftarrow n^{\log_2 8}$$

$$T(n) \leftarrow n^3$$

26  $T(n) = 2T(n/2) + n^2$   
 $T(n)$

$$a=2 \quad b=2 \quad d=2$$

$$a < b^d$$

$$2 < 4$$

$$T(n) \in n^d$$

$$T(n) \in n^2$$

36  $T(n) = 2T(n/2) + 10n$

$$a=2 \quad b=2 \quad d=1$$

$$a = b^d$$

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