

Subject:

Year:

Month:

Date:

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اسی سرنبر

مافان دہ قسمیہ سرنبر

$$T(n) = r \left[T\left(\frac{n}{r}\right) + n \right], \quad T(1) = O(1)$$

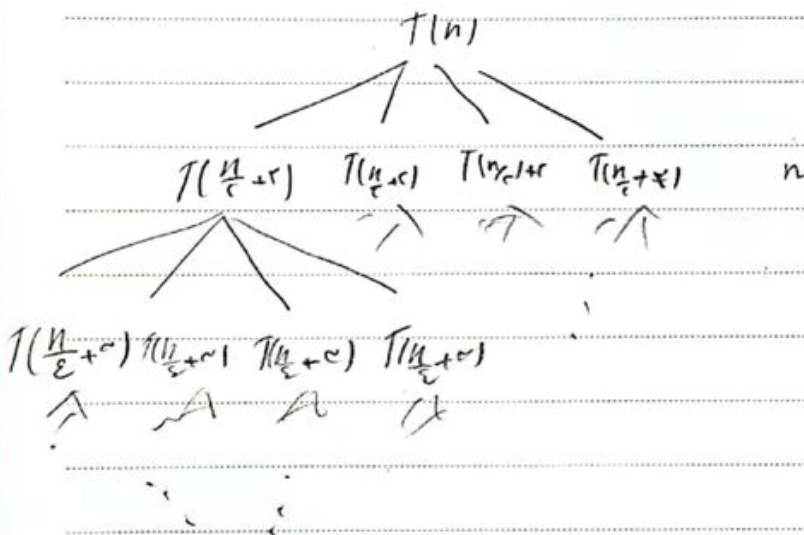
اے جی دہنبر سرنبر

$$T(n) = r T\left(\frac{n}{r}\right) + n = r \left(r T\left(\frac{n}{r^2}\right) + \frac{n}{r} \right) + n$$

$$= r \left(r \left(r T\left(\frac{n}{r^3}\right) + \frac{n}{r^2} \right) + \frac{n}{r} \right) + n = \dots$$

$$r^{\log_r n} O(1) + n \log_r n = n + n \log_r n = O(n \log_r n)$$

نوالہ



$$\varepsilon^0 T(n)$$

$$\varepsilon^1 T\left(\frac{n}{r}\right)$$

n

=>

$$\varepsilon^2 T\left(\frac{n}{r^2}\right)$$

$$\varepsilon^2 \frac{n}{r^2} + r$$

$$\varepsilon^c T\left(\frac{n}{r^c} + \frac{n}{r^c}\right)$$

$$\varepsilon^c \frac{n}{r^c} + r \left(1 + \frac{1}{r}\right)$$

$$\varepsilon^{\log_r n} O(1)$$

$$r^{\log_r n} (c)$$

$$T(n) = n + (r(r^{\log_r n} - 1))n = n + (rn - 1)n + c$$

P4PCO

$$= rn + c = O(n^r) + c$$