Master's Theory. T(n) = a T(n/b) + c \* and 1) T(n) > 8 T(n/2) +1000 n2  $a \ge 8$   $b \ge 2$  (z 1000) d = a.  $b^d \ge 4$   $a > b^d$   $T(n) \leftarrow n \log_2 a$ T(n) < n 6/28 TUD) < n3 a) T(n) = 2 T(n/2) +n2 T(n) a < bd b = 2, d = 2, a < bd2 < 4. Tranje nd T(n) E n2 E) Los 3) T (n) 2 & T (n/2)+10n az2, bz2, dz1. & T(n) = nd logn = m logn Masters. theams !of fin) E (nx) or fin) = can d where d ≥ 0 in recourse. Tin) = aT (n/b) +fn) then T(n)  $\in \{0(n^{\alpha}), if (\alpha < b^{d})\}$   $0(n^{\alpha}logn), if (a > b^{d})$   $0(n^{\alpha}logn), if (a > b^{d}).$ 

T(n) = aT(n/b)+c & nd 1) T(n) = 8T(n/2) +1000 n2 az 8, bz a, Cz1000 d=d.

bd z 4, ax bd

T(n) < n logra  $T(n) \leftarrow \log_2 n \log_2 r$   $T(n) \leftarrow n^3$ 2) T(n) = 2 T (n/2) + n2 T(n), az 2, bzz, dz2 2<4 Tense no TCn) Enz T(n) = 2T(n/2) +10n azba, b22, d2/ T(n) z nd logn = n logn.