| classmate |
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| Date |
| Tutorial 6 |
| Also O D |
| Nisarg R. Pandya 2022 (SI160) |
| 2022 (51160) |
| To prove $a = \{H(h) \neq \} _{AA} - _{AA} + O(i)$ |
| To prove an = {H(bn) () Inan = In bn + O() We will prove the left-to-right direction first - |
| |
| $a_n = H(b_n) \Rightarrow n(a_n) = n(b_n) + O(1)$ |
| |
| By definition, 3 (C>O, neW Find Cloud \(\land \) \(\land \) \(\land \) \(\land \) |
| 4'n>n (b) < a < (1b) |
| Cont Cont |
| $a_n, b_n > 0$ |
| |
| $-$ con \leq an \leq Con |
| S MAZO O SCOMBER |
| $\Rightarrow < \leq q_n < c$ |
| \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| $\Rightarrow \ln(c) \leq \omega \ln(c_{in}) \leq C$ |
| |
| man (n/sm) / m(r) |
| West of the second of the seco |
| |
| i.e., In(an/bn) is bounded |
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| |
| $\ln(a_n/b_n) = O(1)$ |
| |
| $\Rightarrow \ln \alpha_n = \ln b_n + O(1)$ |
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| | Now, to prove In by + O(1) = Inan => an = @(bn) |
| | Given, $\ln \left(\frac{g_n}{g_n}\right) = O(1)$ |
| | By definition JM>0, noEN such that |
| | $(\forall n > n_0) \left(\frac{ n(a_n) }{ n(a_n) } < M \right)$ |
| | $\Rightarrow \forall n > n_0 \qquad n(\frac{a_n}{b_n}) \leq M$ |
| | $\Rightarrow \forall n > n_0 - M \leq \ln\left(\frac{q_n}{6n}\right) \leq M$ |
| | >> Vn>no en < an < en |
| | => \tau_no \overline{e^m b_n} \leq_n \leq \overline{e^m b_n} |
| | (lan)=an, lbn=ln) clon (an) < (bn) |
| | $\frac{(a_n) = a_n}{(b_n)} \frac{(a_n) \leq (b_n)}{(b_n)}$ |
| | $a_n = \Theta(b_n)$ |
| | |
| 1 | ence, $a_n = \Theta(b_n) \iff \ln a_n = \ln b_n + O(1)$ |
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