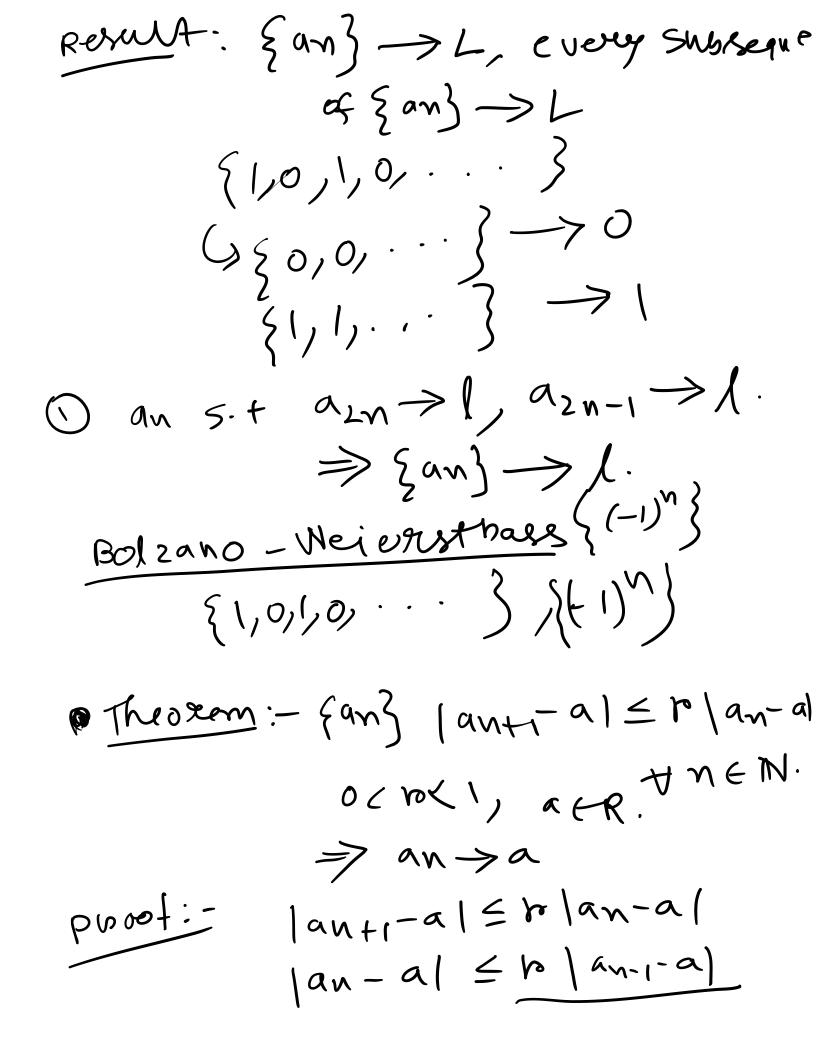
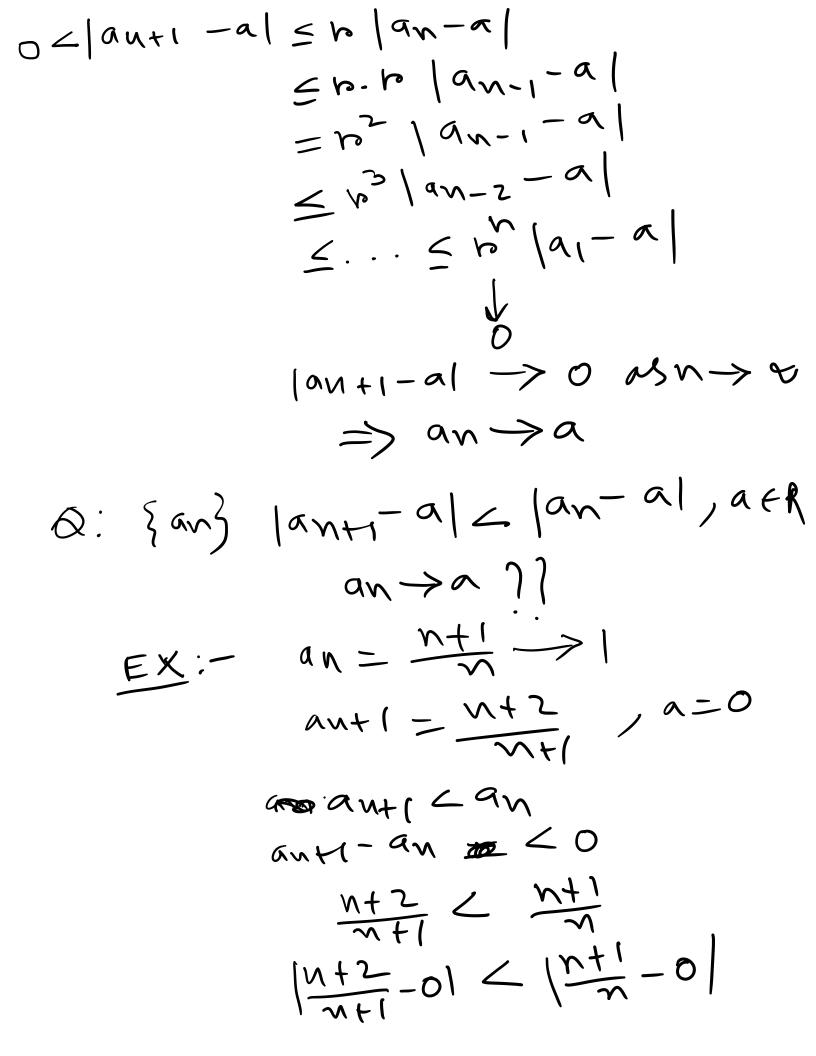
converges => bounded. { (-1) } $\{n\}$ bounded + (monoton) => (onverges m unotone 1 an = ant ANEW AUZANTI ANEW an= 1- In anti-an = 1- 1- 1+ 5 $=\frac{1}{1}-\frac{1}{1}=\frac{1}{1}$ > fant is increasing $\left\{ \left(-1\right)^{N}\right\} \left\{ \left(-1\right)^{N}\right\}$ $a_N = \frac{1}{N}$ Result: (1) increasing 4 bounded above => convergent, sup { nn} 2) decreasing + bounded =>conv, inf {an} anti - an >0

an= 1/1+ 1/2+ 1/1+(n-1) 1/1+ n+n $\alpha_{N+1} = \frac{1}{N+2} + \frac{1}{n+3} + \dots + \frac{1}{2n} + \frac{1}{2n+2} + \frac{1}{2n+2}$ $an41 - an = \frac{1}{2n+1} + \frac{1}{2n+2} - \frac{1}{n+1}$ = 1 -1 1 > 0 an= fr+ 1/1/2+ ··· + 1/1/1 < ず + が +・・・ + が = 1 ancl Anem Subscareace: sand sninz,...

Sant, anz, anz,...

Sant of sand $a_{N}=\frac{1}{N}$, $N_{k}=\frac{1}{k}$, k^{3} 4nx } = { +2 }





Cauchy sequence. (an) E70/INEM S.t. |an-am/< + Yn,m>n a, az.... (an), ant, antzi... EX1: an = { In } cauchy sequence 1 \frac{1}{2} - \frac{1}{2} | \frac{1}{2} - \frac{1}{2} | \frac{1}{2} + \frac{1}{2} \frac{1}{2} - \frac{1}{2} | \frac{1}{2} + \frac{1}{2} \frac{1}{2} - \frac{1}{2} + \frac{1}{2} + \frac{1}{2} - \frac{1}{2} + choose NEN 5. t. In CE $\frac{1}{N} = \frac{1}{N} = \frac{1}{2}$ $\frac{1}{N} = \frac{1}{N} = \frac{2}{3}$ EX^2 $an = \frac{N}{N+1}$ $|a_N-a_m|=\left|\frac{n}{n+1}-\frac{m}{m+1}\right|$ $=\left(\frac{(N+1)(M+1)}{N-M}\right)$ = (n+1)(m+1) (m+1)

 $\leq \frac{n}{(n+1)(m+1)} + \frac{n}{(n+1)(m+1)}$ 1a-b1 < 191+161 M < M+1< hr + 1/1 < h + 1/1 $||a_m - a_m| \leq \frac{1}{m} + \frac{1}{m}$ choose NEIN S-+ 1 = € $\frac{E \times 3}{E \times 4} = \frac{n+1}{n}$ $= (-1)^n$ Result cauchy Scaneane (=> convergent continutive seguence Fan3 |ant2 - ant1 | Ex |ant1 OCX < 1 | HNEM an EX: 2=1/ 1/1 = 1+ fan