Friday, September 17, 2021 11:00 AM UNITS Sequences and Series (1) Segmentes - Basics Servies - Basics Comparison test D'Alembert's Ratio test (5) Raabe's test 6 Canchy's Integral test D'Canchy's Root test (8) Logarithmic test 6 Attenting series (6) Leibnit z's Rale Segnence A segmence is a succession of humber or terms un > nth term of sequences eg) un = 2n+1 N=1  $l_1=3l_1$ h=2  $u_2=5$  h=3  $u_3=7$ Limit (Ut on Lim) 4 (un) = l 7-200 Different types og segnences Con ungent segmes If the limit of a segment is finite, then the segmente is emulargent. eg) ln = 1/2 H-> 6 = H-> - h-> - h-> i. It is em llongent (2) Dilbrogent sequences If limit does not tend to a finite number then it is diller gent eg) hn = 2n+1 H = L+ (2n+1) h-> 00 h-> 00 i. It is di lagent Bounded sequence. h, u2, .. len ... is a bounded sequence if In LK Jonewy n Monotonic sequence The sequence is either increasing (a) decreasing such sequences are Called monotonic Note A sequence which is monotonic and bounded then it is em Vergent de grence 1,4,7,10,... 1, 生, 生, …… Droblems (1) Find the following sequences are (musgent (a) divergent? a)  $lin = \frac{n+1}{n}$ b) un = 3n c) ln = h2 d) ln = h 2) Detamin le general term of he sequences a) 土, 土, 土, 一, 一, 的之之子。 1,-1,1,-1,--It is en llugent  $u_n = 3h$ H ln = 1 3n とりる 71-is diumgent If  $u_n = U + n^2 = \infty$   $h \to \infty$ It is dillegent It is early gent