ISXAICO, OSXC1 M = (S,A,R,T,8) { 20-143 = { flf: x~+ Y} Q (s,a) > Q'(s,a) +(s,a) a, a'EfsxA -> 12} |max Q(s,a) - max Q'(s,a) | / max | Q(s,a) - Q'(s,a) | max Q(s,a) > Q(s,a') => Lus = max Q(s,a) - max Q(s,a')  $\leq Q(s,a) - Q'(s,a)$ < max (Q (s,a)-Q'(s,a')/ @ |min Q(s,a) - min Q'(s,a') | min Q(s,a) = Q(s,a) > Q'(s,a) > min Q'(s,a') = Q'(s,a') =) LHs = Q(s, a) - Q'(s, a') < Q(s, a) - Q'(s, a). LAIZQ(s,a)-LZQ(s,a') & max |Q(s,a)-Q'(s,a')|

AlaeA Alex =  $\left| \frac{1}{1} \sum_{\alpha \in A} Q(s, \alpha) - Q(q, \alpha') \right| \leq \max_{\alpha \in A} \left| Q(s, \alpha) - Q'(s, \alpha') \right|$  $\frac{1}{\omega} \log \left( \frac{1}{|A|} \sum_{k} e^{\omega \alpha(s, a)} \right) - \frac{1}{\omega} \log \left( \frac{1}{|A|} \sum_{k} e^{\omega(s, a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega \alpha(s, a)} \right) - \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s, a')} \sum_{k} e^{\omega(s, a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega \alpha'(s, a)} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s, a')} \sum_{k} e^{\omega(s, a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \sum_{k} e^{\omega(s', a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) \\
= \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right) = \frac{1}{\omega} \log \left( \sum_{k} e^{\omega(s', a')} \right)$ < 1 log (emax(Da)) = log (emax(Da)) = max(Da)

Ø : 35 ×A → 123 → {5→123 NOQ-001100 € 110-01100. Vo (s) = 0 , k=1 , ses. VK(s) = Q (R(s,a)+ VET(sls,a) VK(s')) = Q Q(sa) V-contraction: (S) | | BV1 - BV2 | = max | BV4(s) - BV2(s) | SES = max ( (P(s,a) + 7 [T(s'|s,a) V4(s') - @[P(s,a') +8T(s/1s,a) (s) = max | TE T(s/1s,a) [V(s')-V2(s')] = 8 max | max [4(s')-4(s')] & 8 [4(s)-4(s)] = 8 /14-V2/100 1100 - 00/1 = 11 x 0, 0 + (1-x) 0,0 - x & d - (1-x) & d 1 = 1/2 (0,0-00)]+(1-) [0,0-00] < 11 × (80 - 80'11+|(1-x) [820 - 820'11 ≤ (1-x+x) 110-0 (DQ(s)= # ZQ(s,a) (DQ=maxO(sa) QQ=EQ,+(1-E)Q