Historius en Chipales de Santa Parcia de Caria	
	b. Show that \[\(\varepsilon \varepsil
And the second s	
	The ideal algorithm of optimising choice of y is iterating gingings, that yields
	smallest bound Mi. For O< Ei= mi< and Ei< Ez< Ez<, Zi Ei is divergent. Also
	from part a recall that the probability sample comes 0= 5P EP EEP 3 with
	from part a, recall that the probability sample space Ω= {P, FP, FFP,} with
	The Countable collection of pairwise disjoint sets in JL: A; & JL s.t. A; NA; = P.
	the countable collection of pairwise disjoint sets in $\Omega:A_i \subseteq \Omega$ s.t. $A_i \cap A_j = \emptyset$. $P(U,A_i) = Z_i P(A_i) = P(\Omega) = Z_i E_i \prod_i (1-E_i) = 1$.
	(-) p p 1 (1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	(=7) By Borel-Cantelli Lemma, if Ξειπ (1-ε)=1<00, the P(!im sup {ειπ (1-ε)})=0
	This implies that the probability infinitely many iterations occurring is 0 and that there exists N<00 s.t. En TT (1-E,) does not happen for
	and the thorough New ct & True down the
	and that there exists in the sit. Enjerch cy) does not happen for
	n>N.
	Veins the inscription I - v < P - To - O < v / to - 1 - 1 - 1
	Using the inequality $1-x \le e^{-x}$ for $0 \le x < 1$, the partial products $0 < G_n = \prod_{i=1}^{n} (1-\epsilon_i) \le \prod_{i=1}^{n} e^{-\epsilon_i} = \exp(-\sum_{i=1}^{n} \epsilon_i)$. The partial product $\prod_{i=1}^{n} (1-\epsilon_i)$ is bounded above by the partial sum $\sum_{i=1}^{n} \epsilon_i$. WLOG $\lim_{n \to \infty} \sum_{i=1}^{n} \epsilon_i = \sum_{i=1}^{n} \epsilon_i$
	U< (5n= ! (1-\xi) \ ! e = exp(-\xi) \ the partial product \ ! (1-\xi)
	is bounded above by the nartial cum I.E. WLOG lim I.E. = IE. ic
	di correct for a bide il la
	divergent for arbitrarily large n.
	Using Limit Comparison Test
	July 1 ()
	$\lim_{n \to \infty} \frac{\log(1-\epsilon_i)}{\log(1-\epsilon_i)} = \lim_{n \to \infty} \frac{\log(1-\epsilon_i)}{\log(1-\epsilon_i)} = \lim_{n$
	$i + \infty$ $-\varepsilon_i$ $i + \infty$ $-\varepsilon_i$ $i + \infty$ ε_i $-\varepsilon_i$ $-\varepsilon_i$ $-\varepsilon_i$ $-\varepsilon_i$ $-\varepsilon_i$
	Using Limit Comparison Test, $ \frac{\log(1-\epsilon_i)}{\lim_{i\to\infty}\frac{\log(1-\epsilon_i)}{-\epsilon_i} = \lim_{i\to\infty}\frac{\log(1-\epsilon_i)}{-\epsilon_i} = \lim_{i\to\infty}\frac{\log(1-\epsilon_i)}{\epsilon_i} = c > 0, \text{ for } \alpha_i = \log\frac{1}{1-\epsilon_i}, $ $ b_i = \epsilon_i \text{ s.t. } \alpha_i, b_i \ge 0 \text{ and } 0 < \epsilon_i < 1, \sum \log(1-\epsilon_i) \text{ and } -\sum \epsilon_i \text{ are either} $
	1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	both convergent or divergent.
	Hence we can establish the Lemma [log(1-Ei) and [Ei Ei diverge if and
	1 6 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	only if the sequence of partial product it, (1-Ei) converges to 0
	(lim Gn=0), using Comparison Test from the inequality 1-x < ex. And \(\subseteq \log (1-\varepsilon \)) diverges.
and a state of the	And Ilog(1-E) diverge
	121 77 77 75 5
	(=) For ε, <ε, <ε, <, (1-ε,) > (1-ε,)(1-ε,) >, where O < ε, < ε, is
	mountains and hounded Ry Communican Took since Oct II (1-E) & II e-E;
	monotone and bounded By Comparison Test, since $0 < \frac{1}{2} (1-\epsilon_j) < \frac{1}{2} e^{-\epsilon_j}$ for $\forall j \in \mathbb{N}$ and $\sum_{i=1}^{\infty} \frac{1}{2} e^{-\epsilon_i}$ converges, $\sum_{i=1}^{\infty} \frac{1}{2} (1-\epsilon_i)$ converges. Satisfying
	Tor TytiN and & it converges, : (=1;=1 (1-E;) converges. Jatisfying
-	Abel's criteria Zign convergent, Ebn3 is monotone and bounded by
Creation and Control	Abol's Toct SE, IT (1-8.)=1 is conversant (class)
	Abel's criteria Zan convergent, {bn} is monotone and bounded, by Abel's Test \(\begin{array}{c} \varepsilon \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
-	S. Give examples of sequences & that satisfy, and do not satisfy the
адыярашарды	requirement of part b.
	· Farmer of the control of the contr
	· For yielding smallest bound Mi, \(\xi_1 = \overline{m_i}\) for \(\xi_1 \le \xi_2 \le \xi_3 \le \diverge\)
	• For yielding smallest bound M_i , $\varepsilon_i = -m_i $ for $\varepsilon_1 > \varepsilon_2 > \varepsilon_3 > \dots$ Since $\varepsilon_i = -m_i \le e^{-m_i}$ and from power series $e^* = \sum_{i=0}^{\infty} \frac{x^i}{k!}$ convergent for $\forall x \in \mathbb{R}$,
and an action	E = 1- m = e-mi and from nover sories ex = \$\frac{x}{x}\frac{x}{1} 2000000000000000000000000000000000000
	T 5 C power series c Frok! convergent for VAEIK,
	by Comparison Test ZE: converges & do not satisfy requirement.