MONTH ACCORDING THE PROPERTY OF THE PROPERTY O	
1.31	Consider estimation in Linear Model Y=b,X,+bzXz+E, O < b1, b2 <) for sample
15	(Y1, X11, X21),, (Yn, X1n, X2n). Errors & are independent and distributed to N(0,1).
***************************************	A provintence has been in $\pi(b_1,b_2) = \prod_{r=1}^{n} (b_1) \prod_{r=1}^{n} (b_2)$
	a. Show that posterior means are given by $i=1,2$ $ \frac{\int_0^{\pi} \int_0^1 b_i \int_0^{\pi} \psi(y_i - b_i X_{ij} - b_2 X_{2j}) db_i db_2}{E^{\pi}(b_i y_1 \dots y_n) = \int_0^1 \int_0^1 \frac{dt}{dt} \psi(y_i - b_i X_{ij} - b_2 X_{2j}) db_i db_2}, \text{\emptyset density standard normal.} $
***************************************	$\int_0^1 \int_0^1 b_1 \int_0^1 \varphi(y_1 - b_1 \times y_1 - b_2 \times z_2) db_1 db_2$
HMM NATION THAN BRANCHISCH AND	[(bilyyn) = 5',5', #4(y,-b,X1;-b2X2;) db,db2, (density standard normal.

migrated by the residence and residence in recognition or requirement in the second construction of th	Solo: Given & ~ N(0,1), y, - by x, - by x, ~ N(0,1).
	$E^{\pi}(b_{1} y_{1}y_{n}) = \int b_{1}\pi(b_{1},b_{2} (x_{11},x_{21})(x_{1n},x_{2n})) db_{1}db_{2}$
	Since Tr(b1, b2 (X11, X21). (X111, X21)) & Tr(b1, b2) f((X11, X21). (X111, X21) b1, b2), WLOG
	$\int b_1 \pi(b_1, b_2) (X_{11}, X_{21}) (X_{1n}, X_{2n})) db_1 db_2 = \int_0^1 \int_0^1 b_1 k \pi(b_1, b_2) f((X_{11}, X_{21}) (X_{1n}, X_{2n})) b_1, b_2) db_1 db_2$
MANAGEMENT PROPERTY OF THE PRO	= k J' J' bi f((X11, X21) (X11, X2n) b1, b2) or (b1, b2) db, db2
	$\int_{0}^{1} \int_{0}^{1} b_{i} f((x_{11}, x_{21})(x_{1n}, x_{2n}) b_{1}, b_{2}) \pi(b_{1}, b_{2}) db_{1} db_{2}$
Manual Commence Transport Commence Comm	= $\int_0^1 \int_0^1 f((x_{11}, x_{21})(x_{1n}, x_{2n}) b_1, b_2) \pi(b_1, b_2) db_1 db_2$, where k is marginal factor.
The state of the s	$\int_{\mathfrak{d}} \int_{\mathfrak{d}} b_{ij} \prod_{j=1}^{m} \left((y_{j} - b_{ij} \times_{ij} - b_{2j} \times_{2j}) \pi(b_{i}, b_{2}) db_{i} db_{2} \right)$
	$= \int_0^1 \int_0^1 \int_0^1 (Y_j - b_{ij} \times_{ij} - b_{2j} \times_{2j}) \pi(b_i, b_2) db_i db_2$
	$\int_0^1 \int_0^1 b_{i,j} \iint \left((y_i - b_{ij} \times_{ij} - b_{2j} \times_{2j}) db_i db_2 \right)$
	= J'o J' # (Y; - by xy - bz xz) db, db2 for noninformatine priors (Proven).
	$F^{\pi}(b, \mathbf{I}_{\sigma}, \mathbf{r}_{\sigma}(b, \mathbf{r}_{\sigma}) \mathbf{v}_{\sigma})$
***************************************	b. Show an equivalent expression is Si (yyn) = pt ((b.,b2) \in [0,1]2 yyn), where
	the right-hand term is computed under the distribution
	$(\hat{b}_{2}) \sim N_{2}((\hat{b}_{2}), (X^{t}X)^{-1})$, with $(\hat{b}_{1}, \hat{b}_{2})$ the unconstrained least square
	the right-hand term is computed under the distribution $\binom{b_1}{b_2} \sim N_2 \binom{b_1}{b_2}$, $(X^{t}X)^{-1}$, with (\hat{b}_1, \hat{b}_2) the unconstrained least square estimator of (b_1, b_2) and $(X^{t_1}X^{t_2})$.
	$\left\langle X_{in} X_{2n} \right\rangle$
V	Soln: Given $Y=b, X_1+b_2X_2+\varepsilon$, $\delta_i^{\mathcal{R}}(y_1y_n)=argmin E(L(\delta,b_1,b_2) y_1y_n)$ $= \min_{\delta} \int L(\delta,b_1,b_2) \pi(b_1,b_2 y_1y_n) db_1 db_2$
	$= \sum_{\delta} \int L(\delta, b_1, b_2) \pi(b_1, b_2) \gamma(b_1, b_2) \gamma(b_2, b_2) \gamma(b_1, b_2) \gamma(b_2, b_2) \gamma(b$
-v-+ Was -v see stake the base and the second stake of the second	For $L(\delta,b_1,b_2)$ with (\hat{b}_1,\hat{b}_2) as the unconstrained Least Square Estimator, we want to minimise ϵ_i , $\sum_{i=1}^{n} (y_i - b_1 \times_{i} - b_2 \times_{2i})^2 = \sum_{i=1}^{n} (\epsilon_i)^2$. In vector form, minimise $\ y^t - Xb\ ^2$, given $y = (y_1 y_n)$, $\chi = \begin{pmatrix} x_1 & x_{21} \\ x_{11} & x_{21} \end{pmatrix}$, $b = \begin{pmatrix} b_1 \\ b_2 \end{pmatrix}$. That is $L(\delta,b_1,b_2) = \ y^t - Xb\ ^2$.
***************************************	ne nearly to minimise $(x_i, \frac{1}{2})(x_i - b_i) \times (x_i - b_i) = \frac{1}{2}(x_i)$. In vector form, minimise
	yt-Xb , guen y= (yyn), X= (""), b= (b2). That is L(δ,b,,b2)= yt-Xb .
	/
	As loss function is quadratic loss, $S^{\pi}(yy_n) = E^{\pi}(b_i yy_n)$, where b_i is independent parameter consideration given that it is under bivariate
was referenced described the service of the service of the selection of the service of the selection of the service of the ser	independent parameter consideration given that it is under bivariate
	normal distribution $\begin{pmatrix} b_1 \\ b_2 \end{pmatrix} \sim N_2 \begin{pmatrix} \begin{pmatrix} \hat{b}_1 \\ \hat{b}_2 \end{pmatrix}, \begin{pmatrix} X^T X \end{pmatrix}^{-1} \end{pmatrix}$
	By Conditioned Expectation, E (bilyyn) = Jbi * Tt (bi, bz (X11, X21) (X1n, X2n) db, db2
	By Conditioned Expectation, $E^{\pi}(b_1 y_1y_n) = \int b_1 *\pi(b_1,b_2 (x_{11},x_{21})(x_{1n},x_{2n}))db_1db_2$ $\int b_1 *\pi(b_1 I_{[0,1]^2}(b_1,b_2) (x_{11},x_{21})(x_{1n},x_{2n}))db_1db_2 = E^{\pi}(b_1 I_{[0,1]^2}(b_1,b_2) y_1y_n)$ $= \pi(b_1,b_2 (x_{11},x_{21})(x_{1n},x_{2n})) = p^{\pi}((b_1,b_2) \in [0,1]^2 y_1y_n)$
est man are a specie of control of the control of t	$ = \pi(b_1, b_2 (X_{11}, X_{21}) (X_{1n}, X_{2n})) \qquad P''((b_1, b_2) \in [0, 1]^{-1} y_1y_n) $
	E(bi under joint dist.)
	Generalisation is E(b: lunder joint) = P(b: under joint dist.), Job, 502 #0.
	$\mathbb{E}^{\pi}(b_{1}\mathbb{I}_{[0,1]^{2}}(b_{1},b_{2}) y_{1}y_{n})$
	$\vdots \delta^{\pi}(y_1y_n) = p^{\pi}((b_1b_2) \in [0,1]^2 y_1y_n) (proven).$