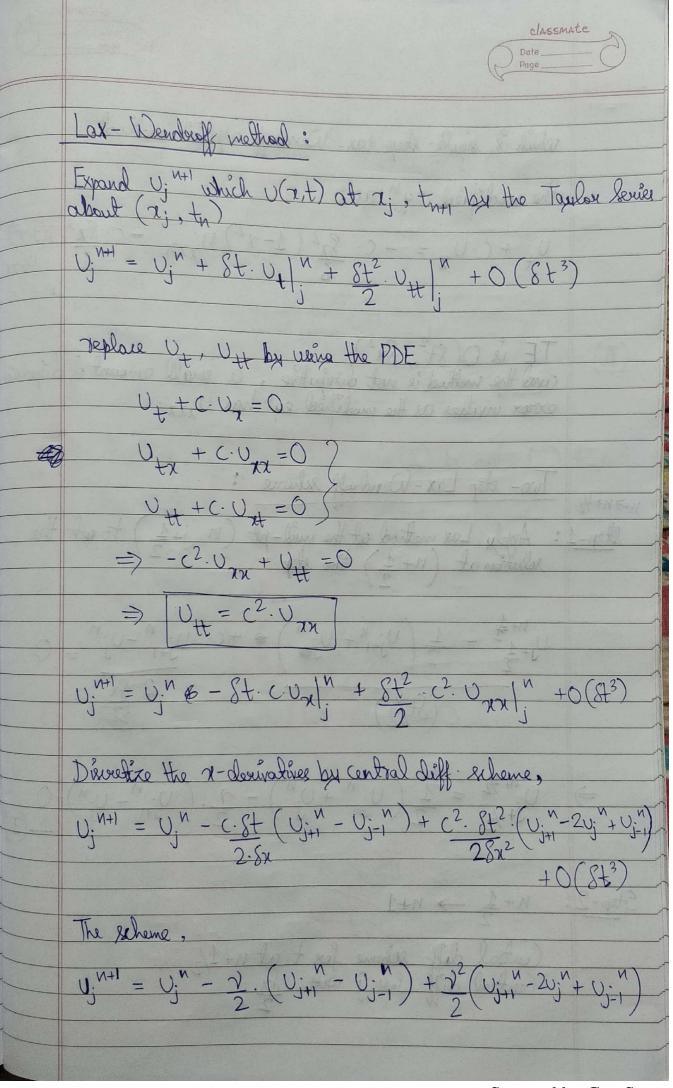
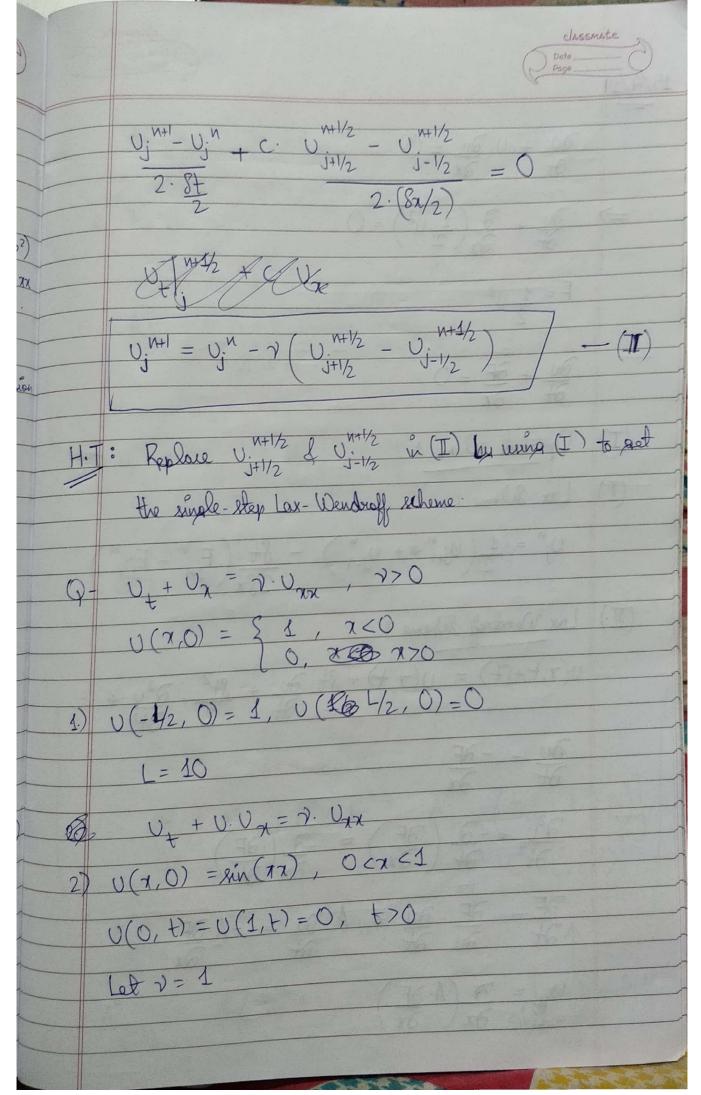
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	Lax Method:
+	Replace $V_j'' = \frac{1}{2} \left(V_{j+1}'' + V_{j-1}'' \right)$
	in the FTCS to get:
No.	$U_{j}^{N+1} - \frac{1}{2}(U_{j+1}^{N} + U_{j-1}^{N}) + C. U_{j+1}^{N} - U_{j-1}^{N} = 0$ $28x$
	which is an explicit schone and stable
	7 = c8+ 8x < 1
	modified egn fox the Lax method is:
	$U_{+} + C \cdot U_{\chi} = \frac{C}{2} \cdot 8\chi \left(\frac{1}{\nu} - \gamma\right) U_{\chi\chi} + \frac{C \cdot (8\chi)^{3} \cdot (1 - \gamma^{2})}{3!}$
	dissipation corres appear as the cofficient of Uxx is:
	$\frac{c}{2} \cdot 8x \left(\frac{1}{2} - 7\right) 70$ when $7 < 1$.
	The dissipation exerce is $7 = 1$.
	T.E & O (Sx ² , St)
	of Up is loops.

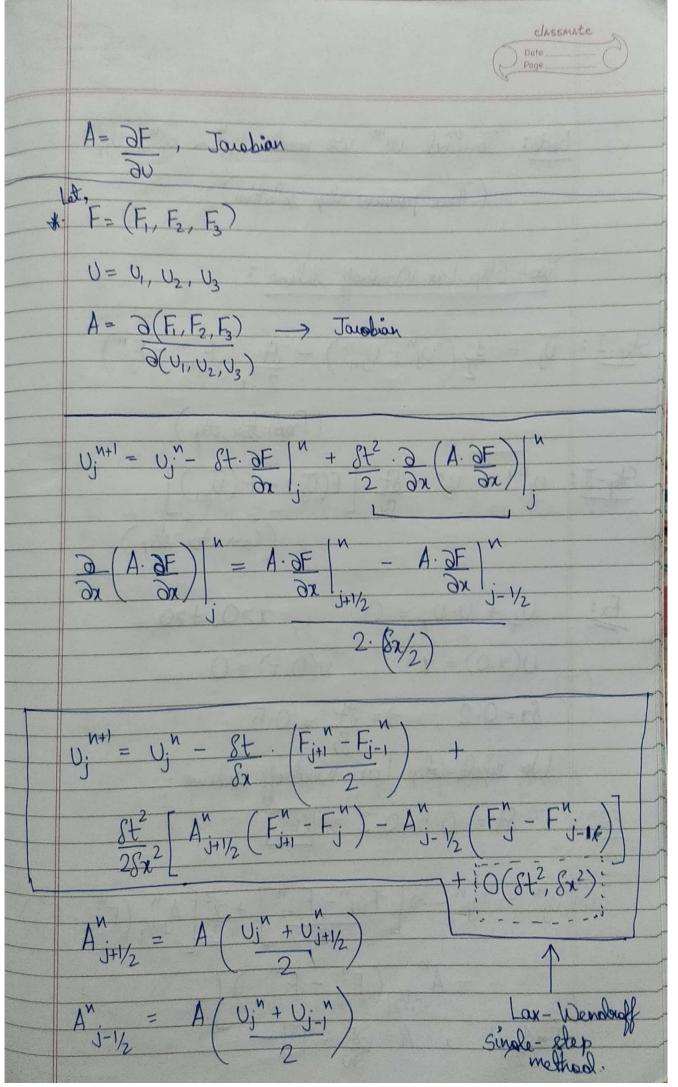


which is single-step lax- Wendroff explicit mother, the modified eq " as : and the method is not dissipative, a small amount of disposition of has Uxxx. Two- step Lax-Wendroff reheme Step-1: Apply Lax method at the mid-pt (n, j+1) to get the solution at (n+1) time step ハラハナル 1 (U; "+ U; ") + (· U; "-U; " $n+\frac{1}{2} \rightarrow n+1$ entral def schame for t at n+1/2



15/4/	
	$\frac{\partial f}{\partial n} + n \cdot \frac{\partial x}{\partial n} = 0$
	$\frac{\partial v}{\partial t} + \frac{\partial}{\partial x} \left(\frac{1}{2} v^2 \right) = 0$
	$F = \frac{1}{2} v^2$
	$\frac{\partial v}{\partial t} + \frac{\partial F}{\partial x} = 0$
(I:)	Uppaind scheme ?
	Lax Illeme: $U_j^n = \frac{1}{2} \left(U_{j+1}^n + U_{j-1}^n \right) - \frac{8t}{2e^2} \left(F_{j+1}^n - F_{j-1}^n \right)$
	Lax Wondroff Scheme :
	$U(x,t+8t) = U(x,t) + 8t \cdot \partial u + 8t^2 \cdot \partial^2 u + \cdots$
	$\frac{\partial v}{\partial t} = -\frac{\partial F}{\partial x}$
	$\frac{\partial^2 v}{\partial t^2} = -\frac{\partial}{\partial t} \left(\frac{\partial F}{\partial x} \right) = -\frac{\partial}{\partial x} \left(\frac{\partial F}{\partial t} \right)$
	$\partial F = \partial F \cdot \partial v = A \cdot \partial v = -A \cdot \partial F$ $\partial t = \partial v = A \cdot \partial v = A \cdot$
	$U_{tt} = \frac{\partial}{\partial x} \left(\frac{A \cdot \partial F}{\partial x} \right)$

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Note: To find yill we need yill, yill, yill. (Three previous step solution) Two- Step Lax Wendroff Scheme: Step-I: $\overline{U_j} = \frac{1}{2} \left(U_j^{n} + U_{j+1}^{n} \right) - \frac{St}{2.5x} \left(\overline{F_{j+1}} - \overline{F_{j}}^{n} \right)$ (Predictor step Step-I: U; N+1 = U; N - St [F(Uj) - F(Uj-1)] ((arrestor step) Ex: $U_{t} + U \cdot U_{x} = 0$, 7>0, t70 v(x,0) = x, v(0,t) = 08x = 0.2, y = 8t = 0.5De single-step Lax- Wendroff geheme. St = 0.5x0.2 = 0.1 $U_{j}^{n+1} = U_{j}^{n} - \nu \left[F_{j+1}^{n} - F_{j-1}^{n} \right] + \nu^{2} A_{j+1/2}^{n} \left(F_{j+1}^{n} - F_{j}^{n} \right)$ $-A_{j-1/2}^{n}(F_{j}^{n}-F_{j-1}^{n})$ F=1 U^2 ; A=0F=0

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