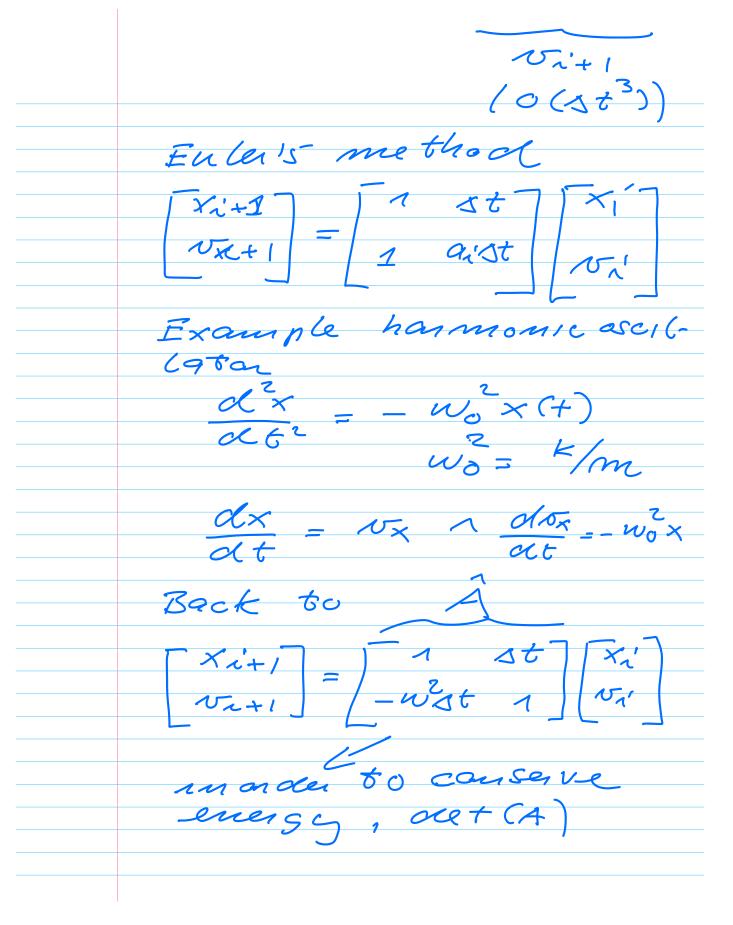
FYS321, FEB 20, 2023 Euler's me thod $\frac{dx}{dx} = f(x,t)$ ナラ しゃ メラング Taylor expand $\times(t+\Delta t) \rightarrow \times(t'+\Delta t)$ xi+1 = x(ti) + stx/ti 0 (d t 2) Fuller's method $x_{n+1} = x_n' + \Delta t \times \dot{t}(t_n)$ $x = \frac{C(x)}{C(x)} = \frac{1}{(x)} = \frac{1}{(x)}$ xi+1 = xi+ st vi) o(st)2) Nit/ = Ni+Star Eule - Cromer: Ni+1 = Ni +Stan (OGt)) Xi+1 = Xi + St (Vi+St91)



det (A) = 1+ w2st Explicit st de Fuller Cromer X1+1 = X1 + [vi-wxist]st vr' + st (-wo xi) - wost det (A) = 1-wodt + wo (st)2 Velocity-Verlet

$$x(t+st) \rightarrow x_{i+1}$$

$$= x_{i}' + st \times (t_{i}')$$

$$+ \frac{st^{2}}{2!} \times (t_{i}') + o(st^{3})$$

$$= x_{i}' + st \times x_{i}' + st \times x_{i}'$$

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$$= x_{i}' + st \times x_{i}$$

Vi+1 = Vn'+ st [9n'+1+9n'] Xi+1 = Xn' + Stor' + Ston' ennor (trumca thou) 0(3t3) need to friend qu' to get xi+1 depends only on X'V Xi+1 -> Pi+1 and