

MODIFIED EULER'S ONE-STEP METHOD:

Ex $y' = y$... $y(t) = e^t$

$$y' = y$$

$$y(0) = 1$$

$$k_1 = f(\mu_n) = \mu_n$$

IN GEN.

$$k_1 = f(\mu_n)$$

$$k_2 = f(\mu_n + h k_1)$$

$$= \mu_n + h k_1$$

$$= \mu_n + h (f(\mu_n))$$

$$= \mu_n + h \mu_n$$

$$= \mu_n (1 + h)$$

Prob

$$y' = 2y$$

$$y(0) = 1$$

$$k_1 = f(\mu_n) = 2\mu_n$$

$$k_2 = f(\mu_n + h k_1)$$

$$= 2(\mu_n + h(2\mu_n))$$

$$= \mu_n (1 + 2h)$$