3a $y' = 2y, \quad y(0) = 1 = U_0$

$$U_{n+1}^0 = U_n + hf(U_n)$$

$$U_{n+1}^{k+1} = U_n + \frac{h}{2}\left(f(U_n) + f(U_{n+1}^k)\right)$$

$k=0, \; n=0, \; h=0.2$:

$$U_1^1 = U_0 + \frac{h}{2}(2U_0 + 2U_1^0)$$

$$U_1^0 = U_0 + h2U_0 = 1 + 2h$$

$$U_1^1 = 1 + \frac{h}{2}(2 + 2(1+2h)) = 1.48 = U_1$$

$n=1$:

$$U_2^1 = U_1 + \frac{h}{2}(2U_1 + 2U_2^0)$$

$$U_2^0 = U_1 + h2U_1 = 2.072$$

$$U_2^1 = 2.1904$$