$$y' = n^{2} + y^{2}$$

$$y(0) = 1$$

$$y(0) = 2$$

$$y' = 2x^{2} + y^{2}$$

$$y''' = 2x + 2y dy - 2x + 2yy'$$

$$y'''' = 2 + 2 [yy'^{2} + yy'']$$

$$y''' = 2 [2y' + y'' + yy'']$$

$$y''' = 2 + 2 [(y')^{2} + yy'']$$

$$= 2 + 2 [(y')^{2} + (y')^{2}]$$

$$= 2 + 2 [(y')^{2} + (y')^{2}]$$

$$= 2 + 2 [(y)^{2} + (y')^{2}]$$

$$=$$

y(0.2) = y2 y2-y+hy+h²y+h³y"+h y" h=0.1, n=0.1, y= 1.1308 4 = (0.1)2 + (1.1308)2 E 0.01+1.278 =) 1.288 y: = 2(0.1) + 2(1-1308)(1.288) = 10.2 + 2.912 y" = 2+2 [(1.288)2+(1.1308)(3.112)] 2 2 + 2 [1. 658 + 3.519] y. = 2[2(1.288)(3.112) + (1.288)(3.212) + (1.1308)(12 354) 22 [8.016 + 4.008 113,969] y = y, +h y' + h2 y" + h3 y" + h4 y""

$$y'=\lambda^{2}+y^{2}, y(0)=1, y(0,1)=1, y(0,2)=?$$

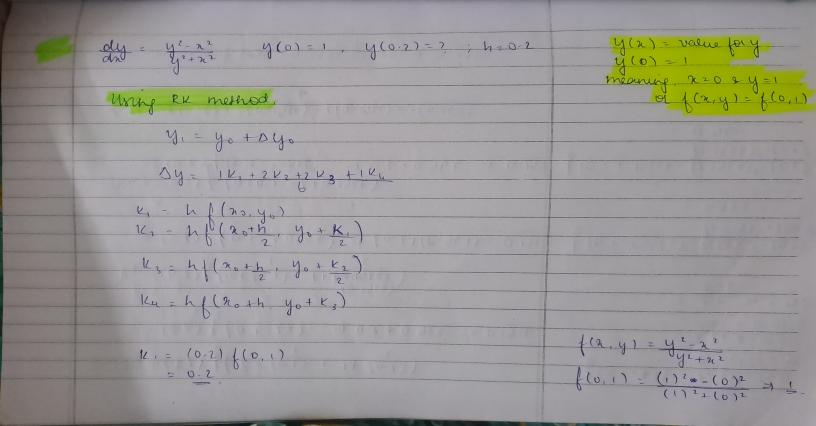
$$y(0,1)=y, =y_{1}+y_{2} + y_{1}(y_{1},y_{2})$$

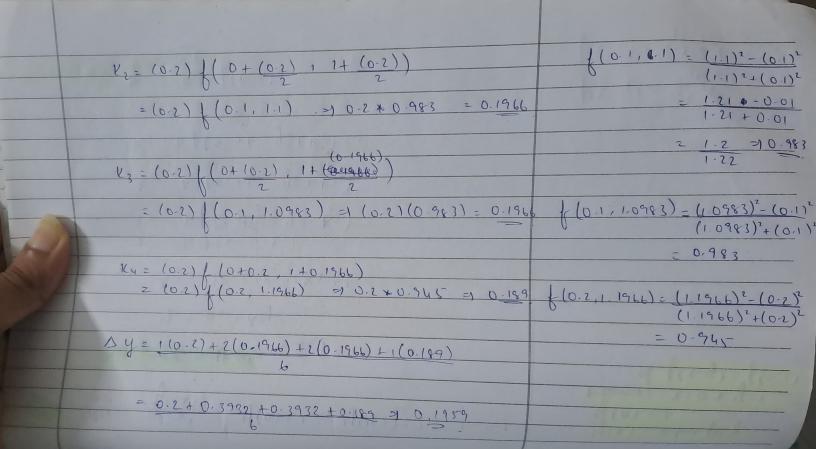
$$= (0,1)^{2}+(1,1)^{2} + 0.01+1.21 + 0.12$$

$$= (1.289)+0.1(1.283)+0.1(12.384)+0.1(12.384)+0.1(12.384)$$

$$= (1.289)+0.1(12.384)+0.1(1$$

Modified Eulers y'= 22y-1 y(0)=01, y(0.2)=2 1(2,y)= 22y-1 (0,0.1), (h20.2) 0.2 3 y, = yoth f (nothin, yoth y' = 0.1 + (0.2) f (0+0.1 g 0.1 + (0.1) (-1) yo = 0(0:1) = -1 (0,0.1) =0.1+0.2+(0.1,0) +(0-1,0)-0-1= =00/10.5





$$y' = y_0 + \Delta y_0$$

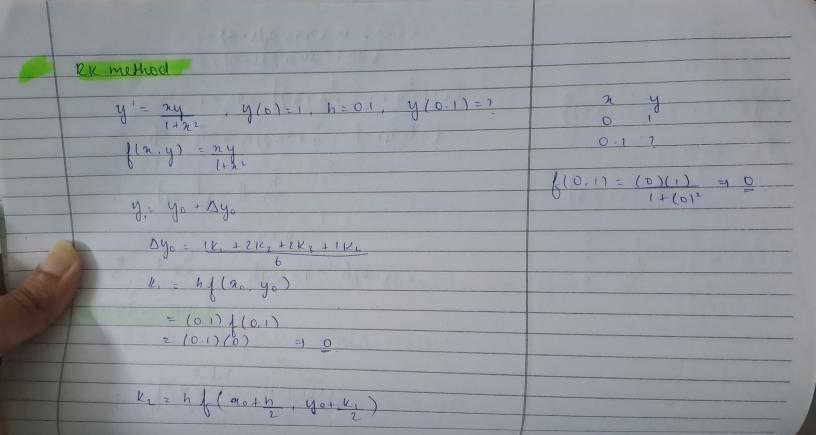
$$= 1 + 0.1959$$
Modified Endery
$$y' = y_0 - 2x$$

$$y(0) = 1, y(0.1) = ?$$

$$\lambda = 0.1$$

$$y' = \frac{1}{2}x$$

$$y' = \frac{1}$$



$$= \{0.1\} \{ (0+0.1, 1+0) \}$$

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