1

$$\begin{cases} y' = y + t^3 & 0{,}5 < t < 2 \\ y(0{,}5) = -2 & h = 0{,}5. \end{cases}$$

$t_{i+1} = t_i + h$; $y_{i+1} = y_i + f(t_i, y_i) \cdot h$

$y(0{,}5) = -2$

$i = 0$

$t_1 = 0 + 0{,}5 = 0{,}5$ (0.5, -1.4375)

$y_1 = (-1) + (-1 + 0{,}5^3) \cdot 0{,}5 = -1{,}4375$

$i = 1$ (1, -1.65625)

$t_2 = 0{,}5 + 0{,}5 = 1$

$y_2 = -1{,}4375 + (-1{,}4375 + 1^3) \cdot 0{,}5 = -1{,}65625$

$i = 2$

$t_3 = 1 + 0{,}5 = 1{,}5$ (1.5, -0,7496875)

$y_3 = -1{,}65625 + (-1{,}65625 + 1{,}5^3) \cdot 0{,}5 = -0{,}749675$

$i = 3$

$t_4 = 1{,}5 + 0{,}5 = 2$ (2, 2.8046875)

$y_4 = -0{,}7496875 + (-0{,}7496875 + 2^3) \cdot 0{,}5 =$

$= 2{,}8046875$

$i = 4$

$t_5 = 2,5$ (2.5, 12.01953125)

x y

$y_5 = 2,80468875 + (2,80468875 + (2,5^3)).0,5$

$= 12,01953125$