| h | 0.8 | dfdy | -1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| x | k1 | k2 | k3 | k4 | Y_Predict | y_exact | fcorrect | Y_Correct | Error |
| 0 | | | | | 0 | 0 | | 0 | |
| 0.8 | 0 | 0.4 | 0.24 | 0.608 | 0.251733 | 0.249329 | 0.548267 | 0.251733 | 0.009643 |
| 1.6 | 0.5483 | 0.72896 | 0.656683 | 0.822921 | 0.804063 | 0.801897 | 0.795937 | 0.804063 | 0.002702 |
| 2.4 | 0.7959 | 0.877562 | 0.844912 | 0.920007 | 1.492182 | 1.490718 | 0.907818 | 1.492182 | 0.000982 |
| 3.2 | 0.9078 | 0.944691 | 0.929942 | 0.963865 | 2.241642 | 2.240762 | 0.958358 | 2.241642 | 0.000393 |
| 4 | 0.9584 | | | | 3.030432 | 3.018316 | 0.969568 | 3.014701 | -0.0012 |
| 4.8 | 0.9696 | | | | 3.804063 | 3.80823 | 0.995937 | 3.798075 | -0.00267 |
| 5.6 | 0.9959 | | | | 4.632761 | 4.603698 | 0.967239 | 4.589358 | -0.00311 |
| 6.4 | 0.9672 | | | | 5.355649 | 5.401662 | 1.044351 | 5.381578 | -0.00372 |
| 7.2 | 1.0444 | | | | 6.305508 | 6.200747 | 0.894492 | 6.183339 | -0.00281 |
| 8 | 0.8945 | | | | 6.785667 | 7.000335 | 1.214333 | 6.972333 | -0.004 |
| 8.8 | 1.2143 | | | | 8.250638 | 7.800151 | 0.549362 | 7.791949 | -0.00105 |
| 9.6 | 0.5494 | | | | 7.659514 | 8.600068 | 1.940486 | 8.549452 | -0.00589 |
| 10.4 | 1.9405 | | | | 11.36599 | 9.40003 | -0.96599 | 9.437547 | 0.003991 |
| 11.2 | -0.966 | | | | 6.091967 | 10.20001 | 5.108033 | 10.05306 | -0.01441 |
| 12 | 5.108 | | | | 19.58493 | 11.00001 | -7.58493 | 11.23835 | 0.021668 |

$$k_1 = f(x_n, y_n)$$
$$k_2 = f\left(x_n + 0.5h, y_n + h(0.5k_1)\right)$$
$$k_3 = f\left(x_n + 0.5h, y_n + h(0.5k_2)\right)$$
$$k_4 = f\left(x_n + h, y_n + hk_3\right)$$
$$y^{n+1} = y^n + h/6\left(k_1 + 2k_2 + 2k_3 + k_4\right)$$

$$y_{n+1}^P = y_n + \frac{h}{24}(55f_n - 59f_{n-1} + 37f_{n-2} - 9f_{n-3}) + \frac{251}{720}h^5 y^V(\xi)$$

$$y_{n+1}^C = y_n + \frac{h}{24}(9f_{n+1} + 19f_n - 5f_{n-1} + f_{n-2}) - \frac{19}{720}h^5 y^V(\xi)$$