Computer Assignment Section 11.5

Submit this cover sheet along with your computer code and the graphs

Let us compare numerical solutions to the differential equation $\dfrac{dy}{dx} = x(1-y)$ with $y(1) = 0$.

Produce the following graphs in one figure:

1. Exact solution $y(x) = 1 - \exp(\frac{1}{2}(1-x^2))$ for $1 \le x \le 5$

2. Euler solution for $1 \le x \le 5$ with $\Delta x = 0.1$
3. Euler solution for $1 \le x \le 5$ with $\Delta x = 0.01$
4. Euler solution for $1 \le x \le 5$ with $\Delta x = 0.001$