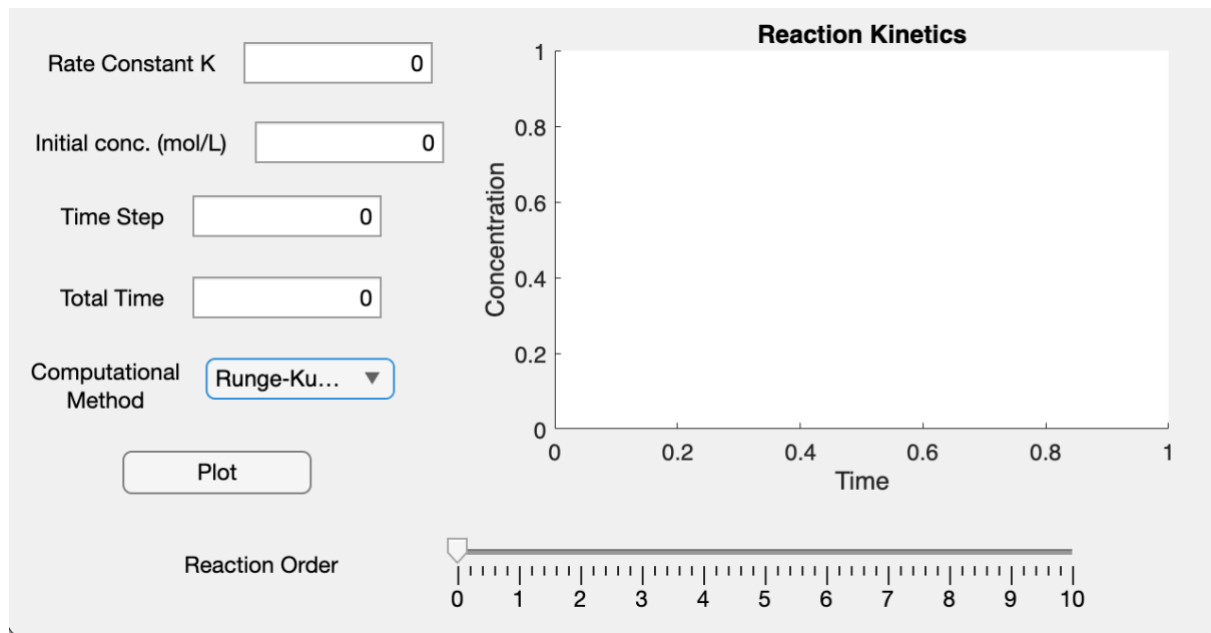# App Manual

Project – Numerical Solution of Reaction Kinetics using MATLAB

App Interface: -

How to use the MATLAB App :

Step 1 :

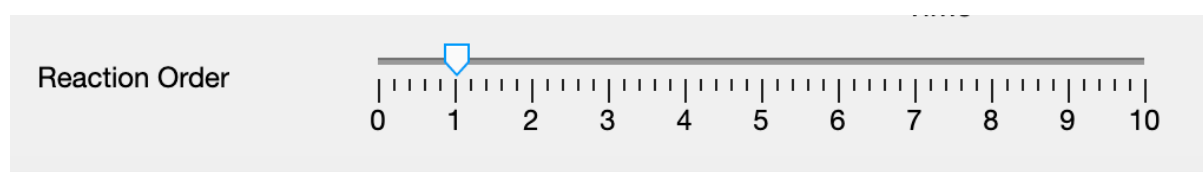Input the value of Rate Constant K

Step 2 :

Similarly, Input all the remaining values like Initial concentration of Reactant (mol/L), Time Step, Total Time.

Here,
Time Step – The time interval in which we will be computing the concentration of reactant and product in real time.
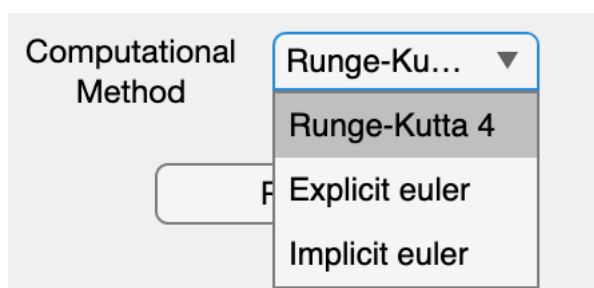
Total Time – Time till we want to see the concentration of reactant and product.
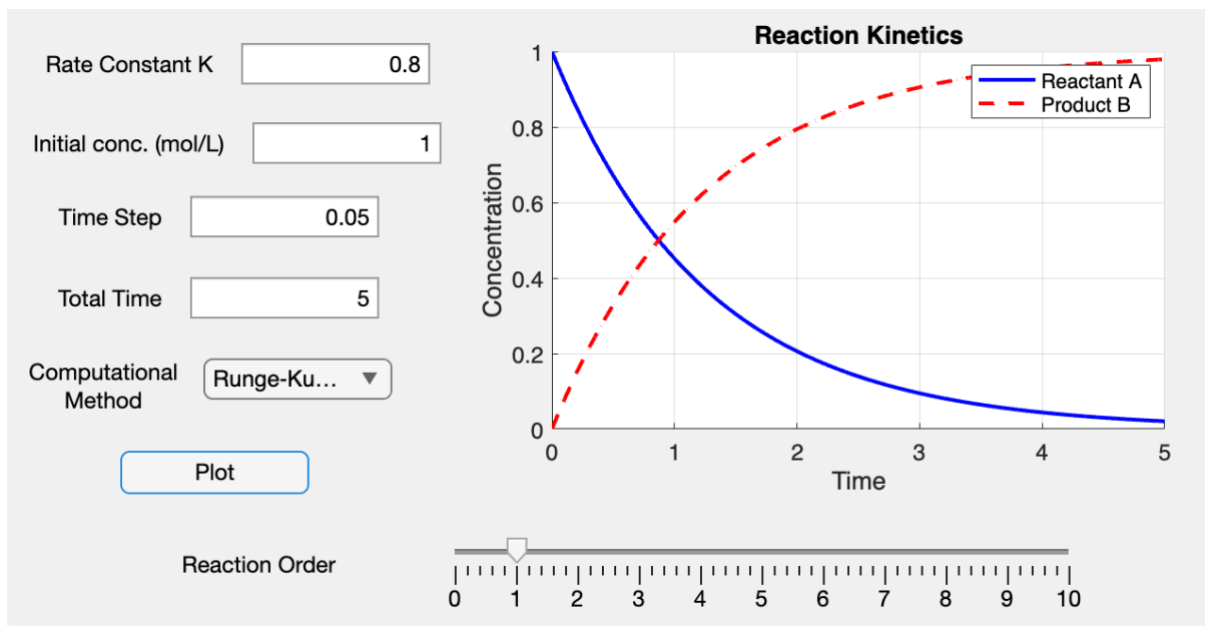
Step 3 :

Via help of the Slider, Change the value of the Reaction Order to the required value.

Step 4 : Select the method of computing the Reaction kinetics ODE

Step 5 :

Click on the **Plot** button to see the required graph of concentration of Reactant and Product Vs Time.

Reaction Kinetics

Rate Constant K   0.8

Initial conc. (mol/L)   1

Time Step   0.05

Total Time   5

Computational Method   Runge-Ku... ▼

Plot

Reactant A
Product B

Concentration
Time

Reaction Order
0 1 2 3 4 5 6 7 8 9 10

More Examples :-

Reaction Kinetics

Rate Constant K   0.5

Initial conc. (mol/L)   2

Time Step   0.1

Total Time   5

Computational Method   Implicit euler ▼

Plot

Reactant A
Product B

Concentration
Time

Reaction Order
0 1 2 3 4 5 6 7 8 9 10

Reaction Kinetics

Rate Constant K   1

Initial conc. (mol/L)   2

Time Step   0.05

Total Time   5

Computational Method   Explicit eu... ▼

Plot

Reactant A
Product B

Concentration
Time

Reaction Order
0 1 2 3 4 5 6 7 8 9 10