

# Assignment 13

## CS374

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# 1 Euler Method

## 1.1 Convergence Table

h	Y
0.100	8.100000e+01
0.050	2.560000e+02
0.050	2.560000e+02
0.020	1.000000e+00
0.010	0.000000e+00
0.001	7.055079e-10

# 2 Backward Euler Method

## 2.1 Convergence Table

h	Y
0.100	8.100000e+01
0.050	2.560000e+02
0.050	2.560000e+02
0.020	1.000000e+00
0.010	0.000000e+00
0.001	7.055079e-10

### 3 Comparison Between Euler and Backward Euler Method

1. In Euler Method, the convergence to the root is not stable, it varies largely from small value of 'h' to larger values of 'h'
2. In Backward Euler Method, the convergence to the root is stable varying the values of 'h' are small to large.

### 4 Graph of Convergence

