Lab Assignment MA 322

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Lab no. 06

Q1

The value of integral is 1.758022

Q2

The value of integral is 6.000000

Q3

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h = 0.10
x       EM       Error(EM)      RK2      Error(RK2)      RK4      Error(RK4)
1.20  1.6958678  0.0628338  -0.2333311  1.9920326  -0.2333388  1.9920404
1.40  1.6047721  0.0689237  -0.3036109  1.9773066  -0.3033138  1.9770095
1.60  1.5817948  0.0676836  -0.3176427  1.9671211  -0.3171642  1.9666425
1.80  1.5893325  0.0654038  -0.3055006  1.9602368  -0.3049172  1.9596534
2.00  1.6129748  0.0632643  -0.2792219  1.9554610  -0.2785753  1.9548145
h = 0.01
x       EM       Error(EM)      RK2      Error(RK2)      RK4      Error(RK4)
1.20  1.7534007  0.0053009  -0.2399685  1.9986701  -0.2399739  1.9986755
1.40  1.6676087  0.0060870  -0.3235298  1.9972255  -0.3235328  1.9972285
1.60  1.6433783  0.0061001  -0.3467610  1.9962393  -0.3467622  1.9962406
1.80  1.6487797  0.0059566  -0.3408356  1.9955718  -0.3408357  1.9955720
2.00  1.6704437  0.0057955  -0.3188682  1.9951073  -0.3188677  1.9951068
```