Computer Science

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Numerical analysis for computer science mayors

FA 2024 CS3010-80

Assignment Problems

1. Use Euler’s method with step size h=1/2 to estimate the value ax x=3/2 of the

solution to such that y (0) =1.

A notebook with writing on it

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2. Use Modified Euler’s Method to approximate the solution of y (0.6) of

using h=0.2 and y (0)=2.

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3. Apply the Taylor series up to the fourth derivative to approximate y (1) for the

following ODE, with y(0)=1 and h=0.5.

A notebook with writing on it

Description automatically generated

4. Corroborate your previous problems solution using MATLAB. Add to the pdf file the

MATLAB output for each of the problems.

Problem 1:

A screenshot of a computer

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Problem 2:

A screenshot of a computer

Description automatically generated

Problem 3:

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