KUTAISI INTERNATIONAL UNIVERSITY

Numerical Programming

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AP#6

AP#6:

Problem 6.1

1. Find a system of nonlinear ODEs describing problems from biology, finances, engineering etc.
2. Select diagonnaly implicit RK method written in the form of Buther table
3. Solve the system of ODEs using selected numerical method(s)
4. Perform numerical experiments and visualize

Tasks and sub-problems to consider

- Post your model and method in the Teams chat.
- Remember the system should contain more than one equations.
- Describe your model in written, give reference to the source.
- Use Newton, Newton Gaus-Seidel, or combination with fixed point iterations with for solving nonlinear system of equations
- Set up numerical experiments and test the method. Give detailed information in written

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Important Notice

- AP assigned 0 points if:
  - a model problem (ODEs, image or video etc.) provided twice by students. Make sure, your model is different from models given by others.
  - submitted results are not reproducible.
  - student cannot apply his own code for the input data provided by TA or instructor.
  - AP is submitted without written explanation of methods and approaches used.
- Submission deadline: 1 week after the date of AP publication.