# Questions for exam "Computer Modeling and Simulations" (29-01-2025)

1. Definition of the model. The mathematical modeling process.

2. 2D and 3D graphics in the Mathematica (WolframAlpha) program. Examples of 2D and 3D visualization solutions for mathematical models.

3. Animation and manipulation. Examples of animation and manipulation of mathematical models.

4. WebMathematica. Simulation using WebMathematica. Demonstration projects Wolfram Research (DemonstrationProjects). Their use for simulation.

5. 2D graphics in the MatLab program. 2D visualization examples of solutions for mathematical models.

6. 3D graphics in the MatLab program. 3D visualization examples of solutions for mathematical models.

7. Analytical capabilities (WebMathematica, WolframAlpha, MatLab) and their use for simulation.

8. Numerical possibilities (WebMathematica, WolframAlpha, MatLab) and their use for simulation.

9. The problem of Łotka-Volterra and the method of its solution. Animation of solutions of this model.

10. Modeling of the vibrating string. Animation of solutions of this model.