

**Instructions for seminars from Numerical Analysis:
Numerical solution to differential equations**

Most of the methods from the course are implemented in document `dif_rov.mw`. You should add the Richardson's extrapolation. You will be expected to be able (even without a program) to use these methods, estimate errors and an adequate step length. File `ulohydif.txt` contains several exercises which you can copy to your document. You should pay attention mainly to the following questions:

1. comparison of methods of different orders,
2. comparison of
 - (a) estimate of the error by integration with two different steps,
 - (b) real error,
3. the dependence of the error on the step length (how much it corresponds to the expected outcome),
4. estimates of the number of steps necessary for a given precision.