Numerical Solutions of Differential Equations - Project #4

due 2023 JUN 19, 10:00 a.m.

1 The assignment

The programming assignments in Section 12.3 weigh 60 points.

2 How to submit

Your submission must contain

(a) the LaTeX source code and its Makefile so that the command "`make story`" generates a document that contains the story required in Section 1,

(b) a `C++` package so that the command "`make run`" would trigger the compilation of your source code, the production of the executable, the running of your tests, the display of test results, and even the generation of the elements in your story.

You should archive your source code in a single gzipped tar ball (**format**: `YourName_project4.tar.gz`) and send it to the TA's email. A number of tips are given as follows.

(i) You can use either `GNU Make` or `cmake` or a mixture of them.

(ii) You may use either `GNU plot` or `matlab` to plot your results.

(iii) You can use Chinese or English for the story document.

(iv) Your gzipped tar ball should neither contain anything that can be generated from your Makefile, nor contain anything irrelevant to this homework. In other words, your answers to this homework should be both *sufficient* and *necessary*.

(v) You are encouraged to use a unit test framework such as `CppUnit`; of course you can choose your own unit-test framework as you see fit.