MATH4063/G14SCC   SCIENTIFIC COMPUTING AND C++

Submission Date: 6th January 2020   **Assessed Coursework 3 – Solution Template**

Your solutions to the assessed coursework must be submitted using this template. Please cut and paste the output from your codes into the correct parts of this file. Once this template has been completed, you must then create a pdf file for submission. Under Windows 10/Windows 7, use Texmaker 5; this may be accessed as follows:

`Start > UoN Application > (UoN) Texmaker 5`

(or simply search for Texmaker). Open the `.tex` *file under* `File`*. To build the pdf file, click the arrow next to* `Quick Build`*. This will then generate the file* `coursework3_submission.pdf`*.*

A single zip or tar file containing the file `coursework3_submission.pdf` *and all the files in the requested folders in the checklists below should be submitted through the module webpage on Moodle.* **NOTE**: *All parameters should be set within your codes: do NOT use inputs such as obtained with* `std::cin`*.*

STUDENT NAME

Question 1

File checklist for folder `Q1`:

- `AbstractIntegrator.cpp`, `AbstractIntegrator.hpp`
- `Driver.cpp`
- `Integral1.cpp`, `Integral1.hpp`
- `Integral2.cpp`, `Integral2.hpp`
- `Integral3.cpp`, `Integral3.hpp`
- `IntegralInterface.cpp`, `IntegralInterface.hpp`
- `SimpsonRule.cpp`, `SimpsonRule.hpp`
- For any additional files, provide a `README.txt`

1(d) Enter your output here (max 100 lines, display only selected output if necessary).

%%%%%%%%%%%%%%%%%% Output of `Driver.cpp` %%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%

Include your plots, tables and comments here.

Question 2

File checklist for folder Q2:

- `AbstractIntegrator.cpp`, `AbstractIntegrator.hpp`
- `Driver.cpp`
- `Integral1.cpp`, `Integral1.hpp`
- `Integral2.cpp`, `Integral2.hpp`
- `Integral3.cpp`, `Integral3.hpp`
- `IntegralInterface.cpp`, `IntegralInterface.hpp`
- `SimpsonRule.cpp`, `SimpsonRule.hpp`
- For any additional files, provide a `README.txt`

2(c) Enter your output here (max 100 lines, display only selected output if necessary).

%%%%%%%%%%%%%%%%%% Output of Driver.cpp %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%

Include your plots, tables and comments here.

Question 3

File checklist for folder Q3:

- AbstractIntegrator.cpp, AbstractIntegrator.hpp
- Driver.cpp
- Integral1.cpp, Integral1.hpp
- Integral2.cpp, Integral2.hpp
- Integral3.cpp, Integral3.hpp
- IntegralInterface.cpp, IntegralInterface.hpp
- SimpsonRule.cpp, SimpsonRule.hpp
- For any additional files, provide a README.txt

3(b) Enter your output here (max 100 lines, display only selected output if necessary).

%%%%%%%%%%%%%%%%%% Output of Driver.cpp %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%

Include your plots, tables and comments here.

Question 4

File checklist for folder Q4**:**

- `AbstractIntegrator.cpp`, `AbstractIntegrator.hpp`
- `Driver.cpp`
- `Integral1.cpp`, `Integral1.hpp`
- `Integral2.cpp`, `Integral2.hpp`
- `Integral3.cpp`, `Integral3.hpp`
- `IntegralInterface.cpp`, `IntegralInterface.hpp`
- `SimpsonRule.cpp`, `SimpsonRule.hpp`
- For any additional files, provide a `README.txt`

4(b) Enter your output here (max 100 lines, display only selected output if necessary).

%%%%%%%%%%%%%%%%%%% Output of `Driver.cpp` %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%

Include your plots, tables and comments here.

Question 5

File checklist for folder Q4:

- AbstractIntegrator.cpp, AbstractIntegrator.hpp
- Driver.cpp
- Integral1.cpp, Integral1.hpp
- Integral2.cpp, Integral2.hpp
- Integral3.cpp, Integral3.hpp
- IntegralInterface.cpp, IntegralInterface.hpp
- ClenshawCurtis.cpp, ClenshawCurtis.hpp
- For any additional files, provide a README.txt

5(c) Enter your output here (max 100 lines, display only selected output if necessary).

%%%%%%%%%%%%%%%%%% Output of Driver.cpp %%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%

Include your plots, tables and comments here

Question 6

Include your comments here.