MITx CSE.0002x
Introduction to Computational Science and Engineering

Help   sandipan_dey ⌄

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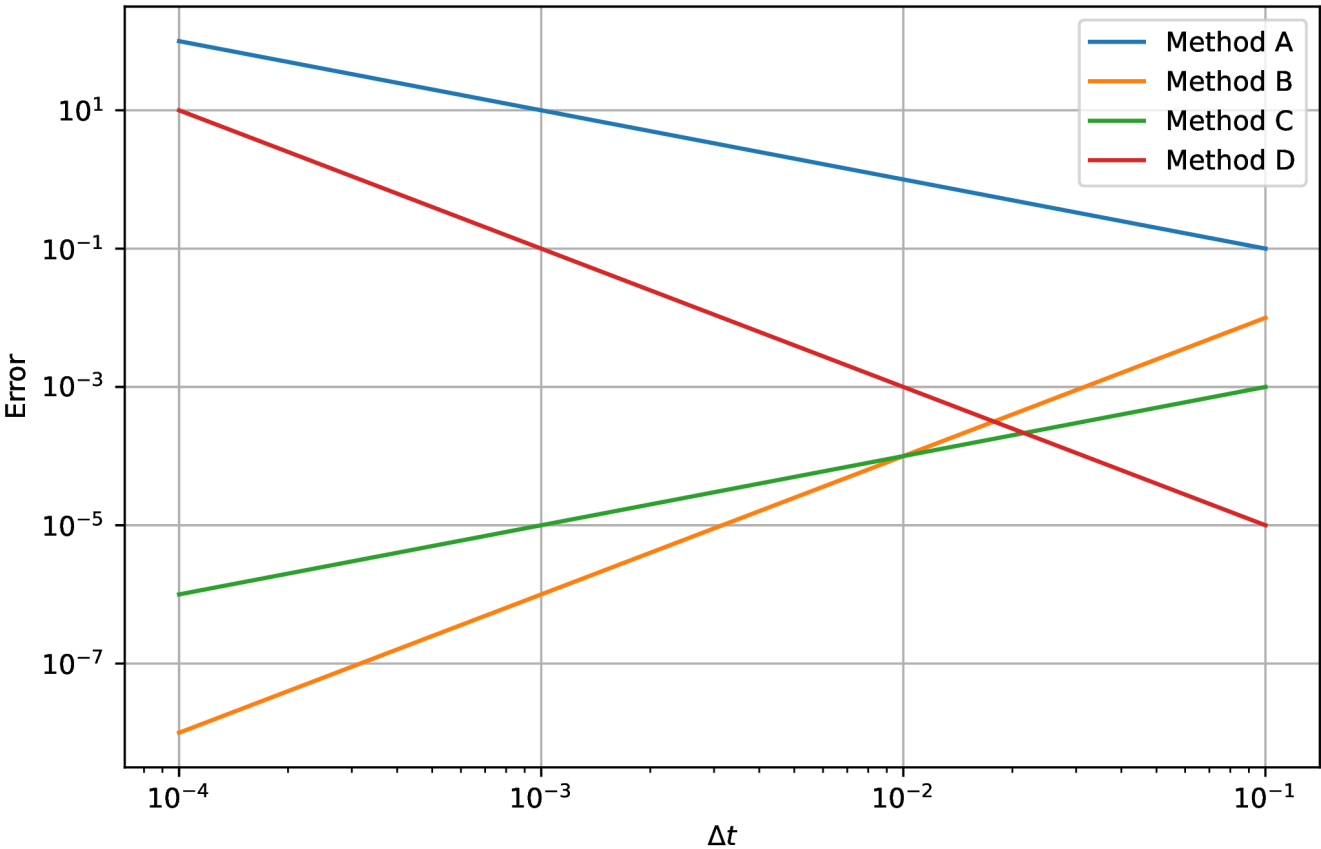
3.1.9 Finger Exercise: Identify order of accuracy and convergence for various methods

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Finger Exercises 1 due Aug 3, 2023 05:00 IST   Completed

MO2.6

The following plot shows the maximum error e_{max} as a function of timestep Δt for four different methods applied to the same Initial Value Problem.

Problem: Method A

1/1 point (graded)
Select all of the statements that are true with respect to Method A?

| ☐ Method A is convergent |

| ☐ Method A has order of accuracy $p = 1$ |

| ☐ Method A has order of accuracy $p = 2$ |

| ☐ Method A has order of accuracy $p = 4$ |

| ☑ None of the above are true |

✔

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ℹ Answers are displayed within the problem

Problem: Method B

1/1 point (graded)
Select all of the statements that are true with respect to Method B?

☑ Method B is convergent

☐ Method B has order of accuracy $p = 1$

☑ Method B has order of accuracy $p = 2$

☐ Method B has order of accuracy $p = 4$

☐ None of the above are true

✔

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Problem: Method C

1/1 point (graded)
Select all of the statements that are true with respect to Method C?

☑ Method C is convergent

☑ Method C has order of accuracy $p = 1$

☐ Method C has order of accuracy $p = 2$

☐ Method C has order of accuracy $p = 4$

☐ None of the above are true

✔

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ⓘ Answers are displayed within the problem

Problem: Method D

1/1 point (graded)
Select all of the statements that are true with respect to Method D?

☐ Method D is convergent

☐ Method D has order of accuracy $p = 1$

☐ Method D has order of accuracy $p = 2$

☐ Method D has order of accuracy $p = 4$

☑ None of the above are true

☑ None of the above are true

✔

Submit

ⓘ   Answers are displayed within the problem

SOLUTION: The solution will be available shortly after the due date in Section 3.2.9.

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