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NPTEL

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Courses » Computational Hydraulics

Announcements

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Mentor

Unit 10 - Week 9

Course outline

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Assignment 9

The due date for submitting this assignment has passed. **Due on 2017-10-05, 23:59 IST.**

Submitted assignment

1) Find out the value of flow-depth y at $x=200\text{m}$ for the GVF problem discussed in the lecture **2.5 points** by using the following Butcher Tableau,

$$\begin{array}{c|cc} 0 & 0 & 0 \\ \frac{2}{3} & \frac{1}{3} & \frac{1}{3} \\ \hline & \frac{1}{4} & \frac{3}{4} \end{array}$$

This is a Third order Runge-Kutta (RK3) approximation. (Hint: Modify the RK4_implicit.sci)

- 0.6404425
- 0.6304425
- 0.6504425
- 0.6704425

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.6404425

2) Find out the value of flow-depth y at $x=150\text{m}$ for the GVF problem discussed in the lecture **2.5 points** by using the following Butcher Tableau,

$$\begin{array}{c|cc} 0 & \frac{1}{4} & -\frac{1}{4} \\ \frac{2}{3} & \frac{1}{4} & \frac{5}{12} \\ \hline & \frac{1}{4} & \frac{3}{4} \end{array}$$

This is a Third order Runge-Kutta (RK3) approximation. (Hint: Modify the RK4_implicit.sci)

- 0.7028665
- 0.7269076
- 0.7628665
- 0.6828665

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.7269076

3) Find out the value of flow-depth y at $x=100\text{m}$ for the GVF problem discussed in the lecture **2.5 points** by using the following Butcher Tableau,

$$\begin{array}{c|cc} \frac{1}{3} & \frac{1}{3} & 0 \\ 1 & 1 & 0 \\ \hline & \frac{3}{4} & \frac{1}{4} \end{array}$$

This is a Third order Runge-Kutta (RK3) approximation. (Hint: Modify the RK4_implicit.sci)

- 0.7928665
 0.7128665
 0.7629011
 0.7228665

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.7629011

4) Find out the value of flow-depth y at $x=75\text{m}$ for the GVF problem discussed in the lecture **2.5 points** by using the following Butcher Tableau,

$$\begin{array}{c|ccc} \frac{1}{3} & \frac{5}{12} & -\frac{1}{12} & \\ 1 & \frac{3}{4} & \frac{1}{4} & \\ \hline & \frac{3}{4} & \frac{1}{4} & \end{array}$$

This is a Third order Runge-Kutta (RK3) approximation. (Hint: Modify the RK4_implicit.sci)

- 0.745069
 0.765069
 0.785069
 0.775069

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.775069

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