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NPTEL

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Courses » Computational Hydraulics

Announcements

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## Unit 8 - Week 7

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### Week 7 Assignment

The due date for submitting this assignment has passed. **Due on 2017-09-24, 11:59 IST.**

#### Submitted assignment

1) Report the value of  $h(nnode)$  for the 1D groundwater problem discussed in Lecture 31 with **1 point** full matrix and impermeable boundary implementation using governing equation. Use the source code `gw1d_fd_gausselim.sci` with `nnode= 21`.

97.1955

91.1955

95.1955

92.1955

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

95.1955

2) Report the value of  $h(nnode)$  for the 1D groundwater problem discussed in Lecture 31 with **1 point** full matrix and impermeable boundary implementation using 3-point approach. Use the source code `gw1d_fd_gausselim.sci` with `nnode= 31`.

97.19414

91.19414

95.19414

92.19414

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

95.19414

3) Report the value of  $h(nnode)$  for the 1D groundwater problem discussed in Lecture 31 with **1 point** full matrix and impermeable boundary implementation using 2-point approach (first order approximation). Use the source code `gw1d_fd_gausselim.sci` with `nnode= 31`.

97.015067

91.015067

95.015067

92.015067

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

95.015067

4) Report the value of  $h(nnode)$  for the 1D groundwater problem discussed in Lecture 31 with banded matrix and impermeable boundary implementation using 2-point approach (first order approximation). Use the source code `gw1d_fd_tdma.sci` with `nnode= 31`. **1 point**

- 95.015067
- 97.015067
- 91.015067
- 92.015067

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*95.015067*

5) Report the value of  $h(10)$  for the 1D groundwater problem discussed in Lecture 31 with full impermeable boundary implementation using 3-point approach. Use the source code `gw1d_fd_gseidel.sci` with `nnode= 31`. **1 point**

- 92.394856
- 97.394856
- 91.394856
- 95.394856

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*92.394856*

6) Report the value of spectral radius for the 1D groundwater problem discussed in Lecture 31 with impermeable boundary implementation using 2-point approach. Use the source code `gw1d_fd_gseidel_scaled.sci` with `nnode= 31`. **1 point**

- 0.9140632
- 0.9470632
- 0.9240632
- 0.9740632

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*0.9740632*

7) Report the value of  $h(15,10)$  for steady two dimensional confined aquifer flow (groundwater) using finite difference (2-point approach). Use the source code `laplace_2D_iterative.sci` with `mnode=31`, `nnode=21`. **1 point**

- 87.543071
- 88.543071
- 88.453071
- 88.435071

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*88.543071*

8) Report the value of  $h(15,10)$  for steady two dimensional confined aquifer flow (groundwater) using finite difference (3-point approach). Use the source code `unsteady_2D_explicit.sci` with `mnode=31`, `nnode=21`. **1 point**

- 89.466917
- 89.469917
- 89.449917
- 89.669917

No, the answer is incorrect.

Score: 0

Accepted Answers:

89.469917

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