# Chemical Engineering 512

# RELAP5-3D

Lecture 17

Advanced Debugging

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# Spiritual Thought

*"It has been helpful for me to remember that the voice of God isn't available to me just to solve my problems. It also inspires worship and fills my soul."*

*Jenny Harris*

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# Objectives

- Hone our skills at RELAP debugging

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# Homework

- How is it going?
  - Too easy?
  - Too difficult?
  - Haven’t started?

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# Advanced Debugging

- Sometimes problems in our deck are pointed out as obvious errors
- Sometimes errors are not obvious
- Sometimes problems aren’t even shown as errors

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# What can you do to be a good debugger?

- Triple check your work
- Plot key volumes/variables of interest
- Watch for errors
- Take your time with input decks
- PRACTICE

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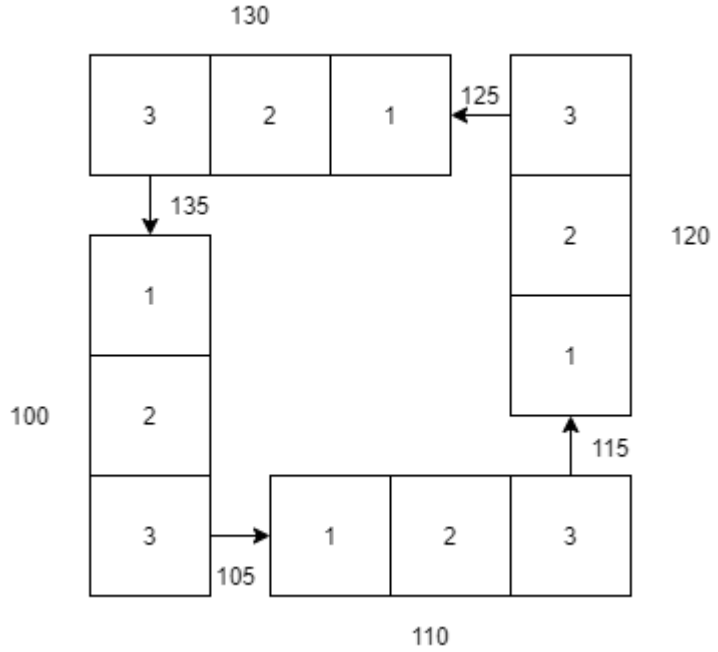
# Example 1

- Download Lecture17_1.o
- Run Lecture17_1.o
- Any errors present?
  - What are these errors and how do we fix them?

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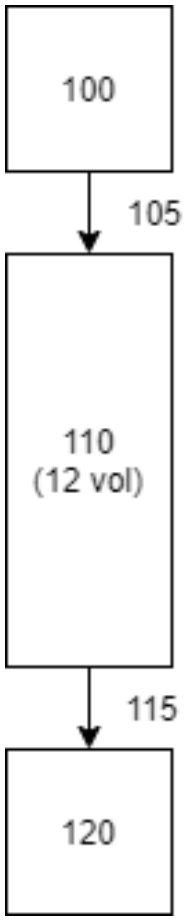
# Example 2

- Download Lecture17_2.o
- Any errors present?
  - What are these errors and how do we fix them?
- Plot variables of interest (mflow 105 and 115)
  - Does this behave as we would expect?
  - What is going on?

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# Example 3

- Download Lecture17_3.o
- Any errors present?
  - What are these errors and how do we fix them?
- Plot variables of interest
  - (p 110060000, tempf 110060000, mflow 110060000)
  - Does this behave as we would expect?
  - What is going on?


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# Homework 9

- Use your heat exchanger transient model (break)
- Create a control variable to monitor total heat transfer through pipe walls into shell
- Plot total heat transfer vs time (through the break and shutdown)
- Hand calcs to verify

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