2023-2024 PET328

Assignment 5

For a given 3-D discretized reservoir model, the permeability values of some gridblocks are so low that the Senior Reservoir Advisor (SRA) would like gridblocks with permeability lower than a specified cut-off value to be classified as 'inactive' while others are to be classified as 'active'. Ultimately, he wants to know the numbers (counts) of gridblocks classified as 'active' and those classified as 'inactive'.

As an initial attempt at the task, write a Python script to implement the following workflow:

1. Request for reservoir dimensions and discretization parameters.
2. Request for the cut-off value.
3. Initialize counters
4. Loop through successive columns in every row of all layers of the discretized reservoir model and perform the following at each iteration:
   a. Request for the permeability value.
   b. Classify the gridblock as intended.
   c. Increment the counters.
   d. Print the number of 'active' gridblocks in each layer (the SRA wants to know which layer to perforate)
5. Print the the percentage of 'active' gridblocks in the entire reservoir.

A template script provided for this assignment is available in the PET_328_Class_2024 GitHub repository. Update your branch of this repository and edit the template script (*Assignment_5_script_template.py*). Commit and push the edited script to your branch. Submit the URL of your branch in response to Assignment 5 on the course page on Moodle.

Best wishes!

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