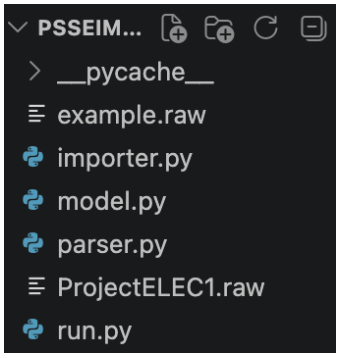
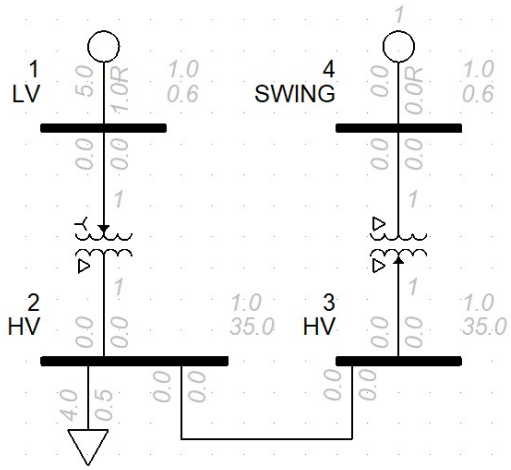
Python project – external model importer from PSS/E

- **Requirements:**
  - External model importer and conversion from PSS/E: parsing; mapping external formats to internal representation, validation
  - Built a model importer that reads the PSS/E file and converts it into internal data structure.
- **Conceptual design:**
  - Prepare an original raw file from PSS/E
  - The python function shall read the raw data from the PSS/E file, detect bus, loads, and etc, and it can then convert the internal model based on the bus data, load data, generator data, branch data, and transformer data of the raw file.
- **Detailed design:**
  - The project is performed under the folder structure:

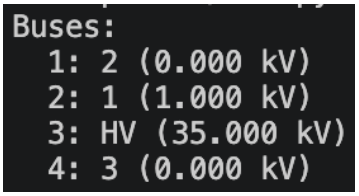


    - 'model.py': defines the internal representation
    - 'parser.py': handles section detection and line parsing
    - 'importer.py': reads the raw file and builds the model
    - 'ProjectELEC1.raw': a simple one-line drawing power system model from PSS/E. The power system one line drawing is shown as below:



    - 'run.py': runs the importer and output the result.
  - The code can be found under the Github repositories:
  - https://github.com/Diwang0705/PowerSystemAnalysis/tree/main/PSSEImporter

- The test simulation result from ‘run.py’ is shown below:



  - The bus 3 can be read correctly, while bus 1, bus 2, and bus 4 remain mismatch. The importer and parser need to be further investigated and adjusted.