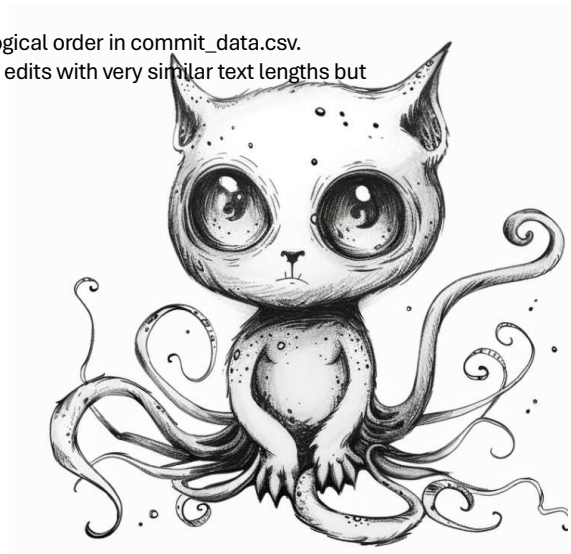
gitextract.py and diffCompare.py

Code is just Text

- **Set up the environment**
  - pip install pandas gitpython python-Levenshtein (difflib and itertools are in the standard library).
- **Generate version snapshots & metadata**
  - Run gitextract.py (adjust repo_path, file_path, output_folder in the header if required).
  - Confirm that:
    - multiple *.py_<commit>.py snapshots now live in ./data/, and
    - ./data/commit_data.csv holds the true commit dates/times.
- **Infer version order with the heuristic script**
  - Execute diffCompare.py.
  - Note the "probable order (old → new)" it prints and the average similarity values for each file.
- **Annotate the code**
  - Open **both** scripts and insert concise English comments explaining every non-trivial block:
    - file loading, similarity calculation, greedy TSP-style ordering, etc. in diffCompare.py;
    - repository traversal, blob extraction, DataFrame creation in gitextract.py.

- **Research the diff algorithm**
  - Look up how difflib.SequenceMatcher computes its .ratio() (hint: an O(ND) "gestalt pattern matching" algorithm by Ratcliff-Obershelp).
  - Summarise the core idea and its time/space complexity directly in the script as comments.
- **Validate the guessed order**
  - Compare the sequence produced in step 3 with the chronological order in commit_data.csv.
  - Record mismatches and speculate why they occur (e.g., two edits with very similar text lengths but reversed timestamps).



- **Critique & extend the approach**
  - Briefly discuss—either in a separate report.md or as end-of-file comments—
    - **Collaboration issues**: branching, multiple authors, interleaved edits, non-textual changes, large refactors.
    - **Alternative metric**: swap the similarity measure for *Levenshtein distance* (python-Levenshtein provides it), rerun the ordering, and note whether the sequence improves or degrades.