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In [1]:  from pathlib import Path
         import json
         import os

         from tinydb import TinyDB

         current_dir = Path(os.getcwd()).absolute()
         results_dir = current_dir.joinpath('results')
         kv_data_dir = results_dir.joinpath('kvdb')
         kv_data_dir.mkdir(parents=True, exist_ok=True)
```

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In [2]:  def _load_json(json_path):
             with open(json_path) as f:
                 return json.load(f)
```

```python
In [3]: class DocumentDB(object):

            def __init__(self, db_path):

                people_json = kv_data_dir.joinpath('people.json')
                visited_json = kv_data_dir.joinpath('visited.json')
                sites_json = kv_data_dir.joinpath('sites.json')
                measurements_json = kv_data_dir.joinpath('measurements.json')

                self._db_path = Path(db_path)
                self._db = None
                self._person_lookup = _load_json(people_json)
                self._visit_lookup = _load_json(visited_json)
                self._site_lookup = _load_json(sites_json)
                self._measurements_lookup = _load_json(measurements_json)
                self._load_db()

            def _get_site(self, site_id):
                return self._site_lookup[str(site_id)]

            def _get_measurements(self, person_id):
                measurements = []
                for values in self._measurements_lookup.values():
                    measurements.extend([value for value in values if str(['person_
                return measurements

            def _get_visit(self, visit_id):
                visit = self._visit_lookup.get(str(visit_id))
                site_id = str(visit['site_id'])
                site = self._site_lookup(site_id)
                visit['site'] = site
                return visit

            def _load_db(self):
                self._db = TinyDB(self._db_path)
                persons = self._person_lookup.items()
                for person_id, record in persons:
                    measurements = self._get_measurements(person_id)
                    visit_ids = set([measurement['visit_id'] for measurement in mea
                    visits = []
                    for visit_id in visit_ids:
                        visit = self._get_visit(visit_id)
                        visit['measurements'] = [
                            measurement for measurement in measurements
                            if visit_id == measurement['visit_id']
                        ]
                        visits.append(visit)
                    record['visits'] = visits
                    self._db.insert(record)

In [4]: db_path = results_dir.joinpath('patient-info.json')
        if db_path.exists():
            os.remove(db_path)

        db = DocumentDB(db_path)
```

In [ ]: