

1. 2013-PNAS-Crossley-Cognitive-relevance-coactivation-matrix.txt
  - a. Time: **1.141 seconds**
  - b. Levels in its hierarchical decomposition: **3**
  - c. Largest modularity at level **2**, which is **0.4733**
  - d. Levels and their modality
    - i. Level **0** has a modularity of **0.4617**
    - ii. Level **1** has a modularity of **0.4723**
    - iii. Level **2** has a modularity of **0.4733**
2. 1993-Proc-Royal-Society-organization-neural-systems-macaque71.txt
  - a. Time: **0.0255 seconds**
  - b. Levels in its hierarchical decomposition: **2**
  - c. Largest modularity at level **0**, which is **0.3737**
  - d. Levels and their modality
    - i. Level **0** has a modularity of **0.3634**
    - ii. Level **1** has a modularity of **0.3737**
3. 1991-cerebral-cortex-felleman-primate-cerebral-cortex-fv30.txt
  - a. Time: **0.0087 seconds**
  - b. Levels in its hierarchical decomposition: **1**
  - c. Largest modularity at level **0**, which is **0.2419**
  - d. Levels and their modality
    - i. Level **0** has a modularity of **0.2419**
4. 2007-pnas-honey-network-structure-functional-connectivity-macaque47.txt
  - a. Time: **0.0162 seconds**
  - b. Levels in its hierarchical decomposition: **1**
  - c. Largest modularity at level **0**, which is **0.3008**
  - d. Levels and their modality
    - i. Level **0** has a modularity of **0.3008**
5. 1995-journal-neuroscience-connectivity-cerebral-cortex-cat.txt
  - a. Time: **0.0637 seconds**
  - b. Levels in its hierarchical decomposition: **2**
  - c. Largest modularity at level **1**, which is **0.3581**
  - d. Levels and their modality
    - i. Level **0** has a modularity of **0.3465**
    - ii. Level **1** has a modularity of **0.3581**
6. 2012-cerebral-cortex-markov-weighted-directed-interareal-macaque.txt

- a. Time: **0.0603 seconds**
- b. Levels in its hierarchical decomposition: **2**
- c. Largest modularity at level **1**, which is **0.6245**
- d. Levels and their modality
  - i. Level **0** has a modularity of **0.5658**
  - ii. Level **1** has a modularity of **0.6245**

## Reflection:

I was surprised by the relative lack of levels to a lot of these datasets. The max level was 3, which I had expected there to be many more levels. I found that while analyzing the standard data sets, the math was generally trivial. However, when working with the 2012 dataset, I had to modify my code from homework 1. Furthermore, for both standard and complex datasets, finding the optimal community/partition proved to be the hardest part to implement.