**Experiments investigating recency effects and errors in memory**

**Experiment 1:**

* N-back task
  + Description: Standard n-back task from Ari and Nathaniel’s cognitive battery.
* Hamiltonian task
  + Description: 1500 trials generated from modular graph. These trials are split into six repeated segments of 220 trials from a random walk followed by 30 trials from a Hamiltonian walk.
  + Files:
    - ‘nodes\_Hamiltonian.csv’ is a 500 x 1500 matrix. Each row defines a sequence of nodes (between 1 and 15) generated as described above.
    - ‘isHamiltonian.csv’ is a 500 x 1500 matrix where each entry is 0 if that trial is part of a random walk or 1 if that trial is part of a Hamiltonian walk.
    - ‘crossCluster\_Hamiltonian.csv’ is 0 if trial represents transition within a cluster or 1 for transition between clusters.
* Network n-back task
  + Description: 500 trials generated as random walk in modular graph. After every 20th trial, we either ask subjects to recall which stimulus they just saw (1-back) or which stimulus they saw two trials ago (2-back). We ask 10 1-back queries and 15 2-back queries.
  + Files:
    - ‘nodes\_nBack\_1.csv’ is 500 x 500 matrix, where each row defines a sequence of nodes.
    - ‘queries\_nBack\_1.csv’ defines n-back queries. Each entry is either 0 for no query (standard trial), 1 if after this trial we as a 1-back query, or 2 if after this trial we ask a 2-back query.

**Experiment 2:**

* N-back task (same as above)
* Random walk
  + Description: 1500 trials generated as random walk on modular graph. The purpose of this task is to set a baseline to compare against Experiment 1.
  + Files:
    - ‘nodes\_random.csv’ is a 500 x 1500 matrix, where each row defines a random walk.
    - ‘crossCluster\_random.csv’ is 0 if trial represents transition within a cluster or 1 for transition between clusters.
* Network n-back task (same as above but with files ‘nodes\_nBack\_2.csv’ and ‘queries\_nBack\_2.csv’)