# Lab1 – explore memory and compute in nanoGPT Due midnight on October 26th.

- Use nanoGPT for these examples
- Train using the Shakespeare text
- Choose 5 optimizations from the lectures to implement in nanoGPT some for reducing memory and some for improving compute time
- Use three different model configurations (suggestions):
  - Change dimension of embedding
  - Change number of layers
  - Change size of feed forward layer
  - Change number of attention heads
  - Change size of context
- For each of the 5x3 cases produce a table that records memory consumption and runtime (use tools for memory profile and timers)
- Write a short report (two pages) that explains your experiments, describes your expectations for the experiments and compares your expectations to your results
- Conclude your write up two small sections, 1) summary of the major sources of error with your experiments and 2) a few suggestions on how you might improve the experiments if you were doing them again