Project 3 Grading Criteria

Assuming that one chooses 4 different values for each of the three possible parameters, there are $4^3 = 64$ different experiments. Either perform the experiments for all possible combinations, or explain why you choose to fix certain parameters (e.g. fix queue depth when measuring the effect of data access size on latency). The explanation should be akin to something like (“I choose to fix the queue size to a sufficiently small/large number so that the latency is dominated by time spent waiting in the queue/so that the time spent waiting in the queue is minimal.”)

Latency Measurements: 90pts

- ☐ Did not specify latency in reasonable unit (ms, µs, ns): -10pts
- ☐ Effect of data access size on latency:
  - ☐ Tried 3 different access sizes: 10pt
  - ☐ Explanation of which parameters were held fixed and which parameters were varied in conjunction with the data access size: 20pt
  - ☐ Missing plot with access size on x-axis, latency on y-axis: -10pt
- ☐ Effect of read/write intensity ratio on latency:
  - ☐ Tried 3 different read/write ratios: 10pt
  - ☐ Explanation of which parameters were held fixed and which parameters were varied in conjunction with the intensity ratio: 20pt
  - ☐ Missing plot with ratio on x-axis, latency on y-axis: -10pt
- ☐ Effect of I/O queue depth on latency:
  - ☐ Tried 3 different access sizes: 10pt
  - ☐ Explanation of which parameters were held fixed and which parameters were varied in conjunction with the queue depth: 20pt
  - ☐ Missing plot with queue depth on x-axis, latency on y-axis: -10pt

Bandwidth Measurements: 90pts

- ☐ Did not follow directions on how to specify bandwidth for small data size vs large data size: -10pts
- ☐ Effect of data access size on bandwidth:
  - ☐ Tried 3 different access sizes: 10pt
  - ☐ Explanation of which parameters were held fixed and which parameters were varied in conjunction with the data access size: 20pt
  - ☐ Missing plot with access size on x-axis, bandwidth on y-axis: -10pt (for this one it is ok to simply use IOPS on the y-axis and not switch between IOPS and MB/s)

- [ ] Effect of read/write intensity ratio on bandwidth:
    - [ ] Tried 3 different read/write ratios: 10pt
    - [ ] Explanation of which parameters were held fixed and which parameters were varied in conjunction with the intensity ratio: 20pt
    - [ ] Missing plot with ratio on x-axis, bandwidth on y-axis: -10pt (for this one it is ok to simply use IOPS on the y-axis and not switch between IOPS and MB/s)
- [ ] Effect of I/O queue depth on bandwidth:
    - [ ] Tried 3 different access sizes: 10pt
    - [ ] Explanation of which parameters were held fixed and which parameters were varied in conjunction with the queue depth: 20pt
    - [ ] Missing plot with queue depth on x-axis, bandwidth on y-axis: -10pt (for this one it is ok to simply use IOPS on the y-axis and not switch between IOPS and MB/s)

Analysis: 50pts

- [ ] For each experiment, explain the trend observed and give the reasoning behind the trend