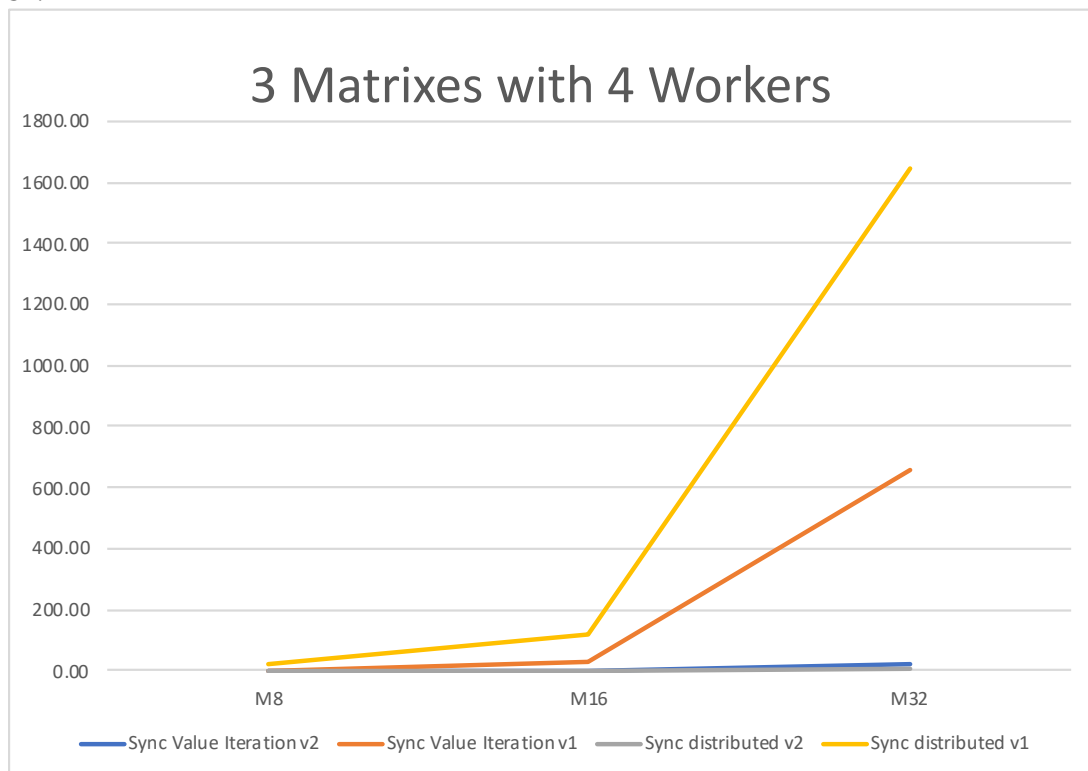
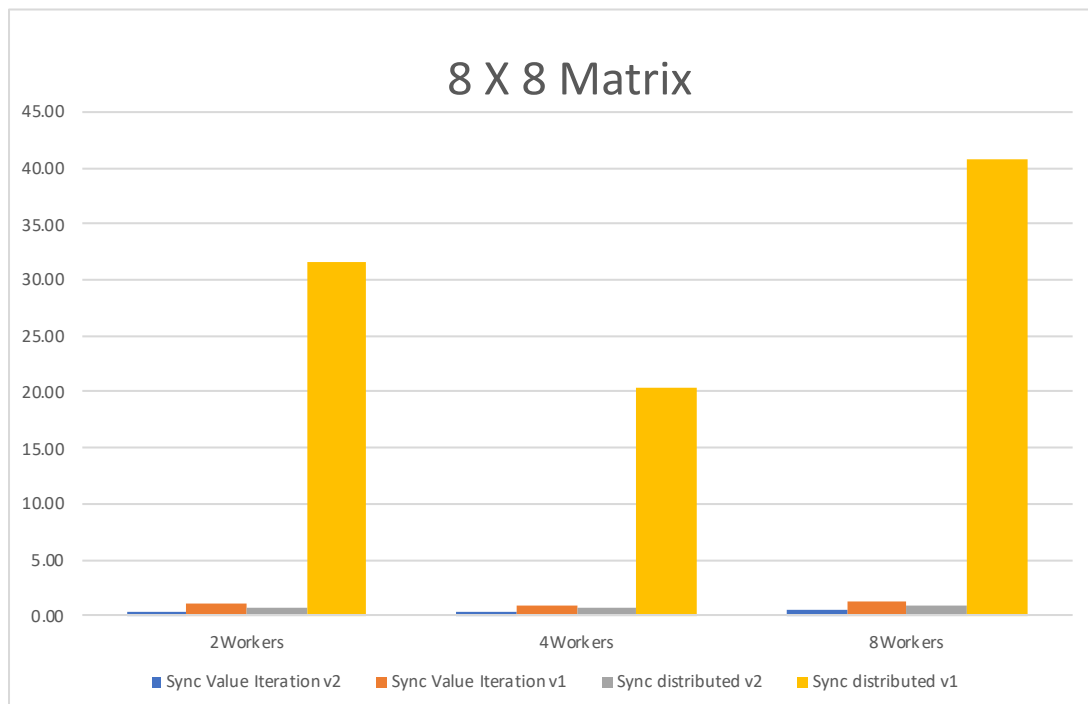


## HW2 Report

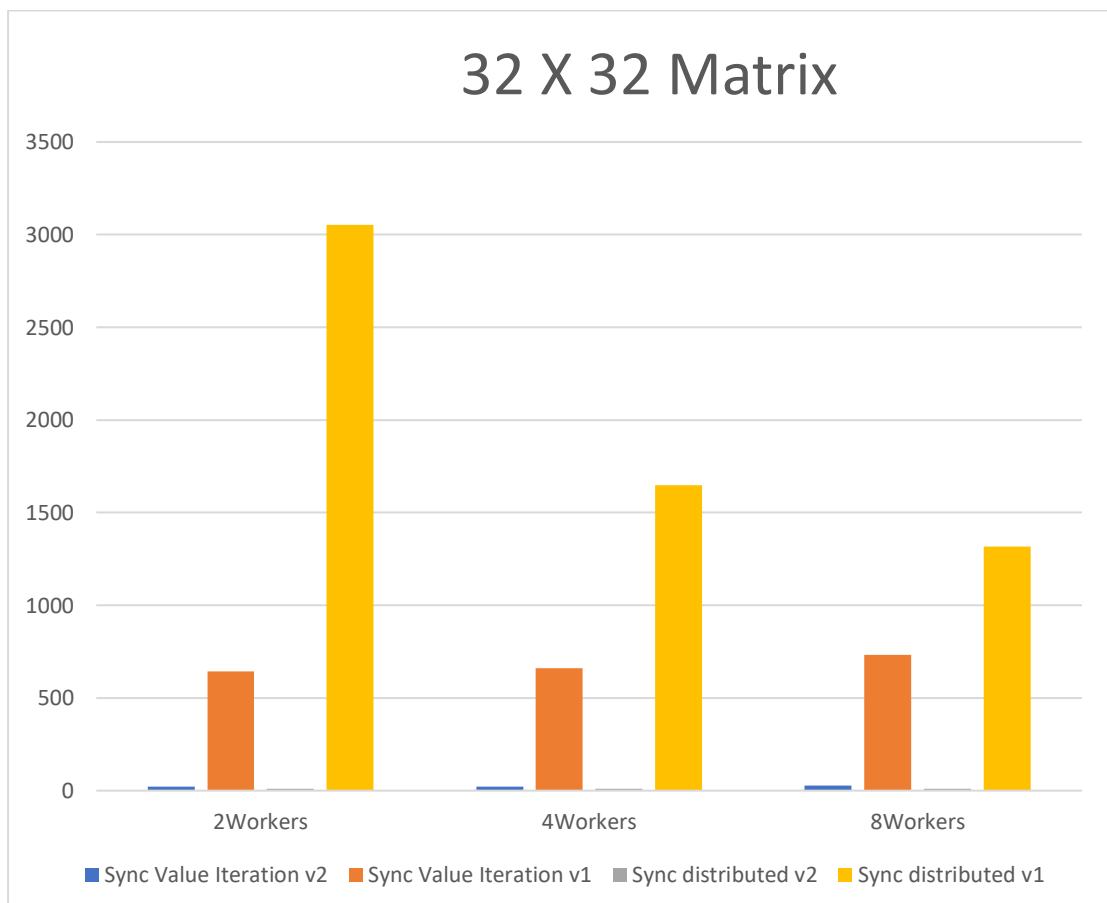
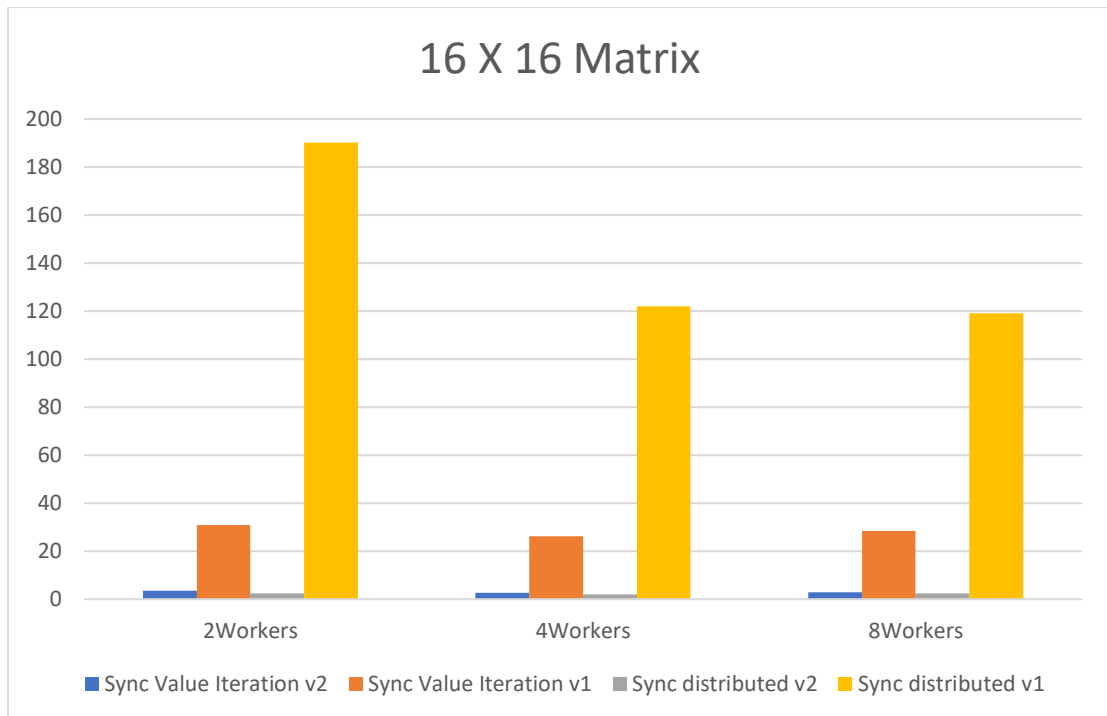
1. A plot that shows the running time of the above 4 approaches against the map sizes f 8, 16 and 32.



2. A plot that shows the running time of both distributed approaches against the number of the workers with 2, 4 and 8 workers.



## HW2 Report



## HW2 Report

3. Briefly explain why the second distributed method is faster than the first one?
  - a. Too many ray commands in v1 in nested loops. It will increase the performance time
  - b. We directly implemented `ray.remote()` and `ray.get()` instead of `ray.wait()`. It would increase the speed.
  - c. This is the advantage of the data driven parallel computing. We divided data into batches by the number of workers. Each worker deals with each batch of data in parallel.
4. Compare the best distributed method with the best non-distributed approach. Which one is better? Briefly explain why.

→ As figures above, Sync distributed v2 is faster than Sync Value Iteration v2 in margin. However, when data size is getting bigger, the distributed system is getting faster.