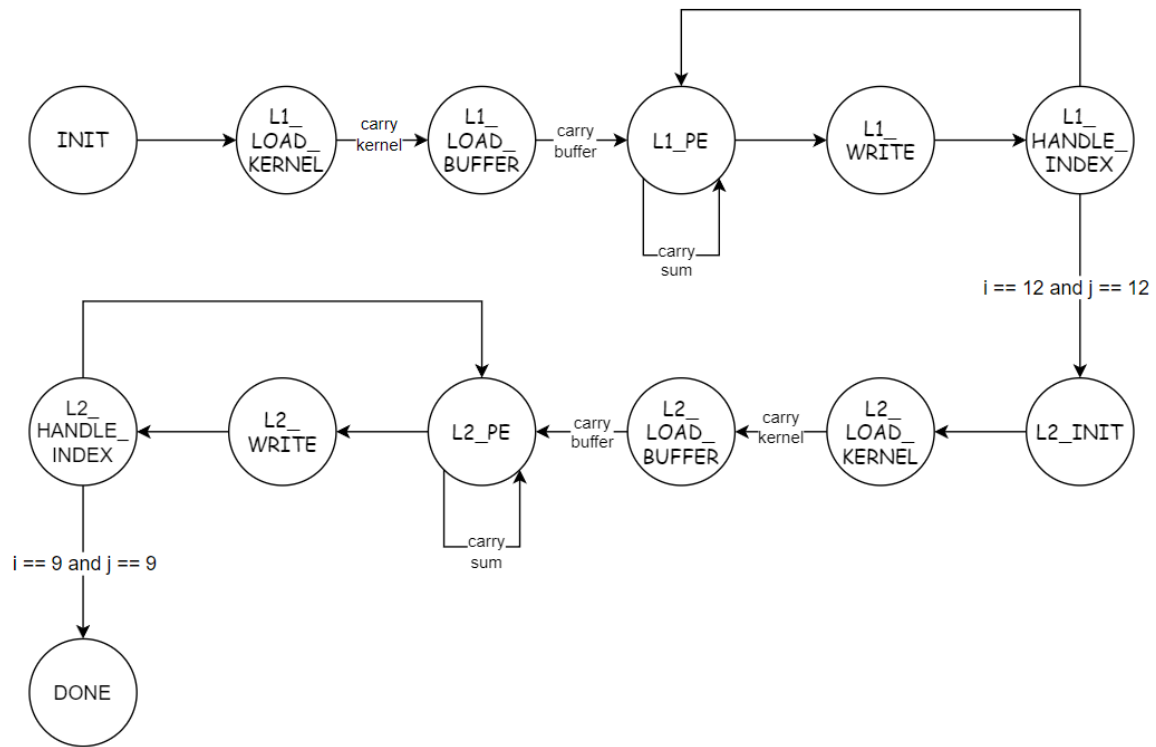The data path and the controller are very similar to first phase, but few things have been changed:

- 8 × 8 buffer is removed.
- Two new buffer is added, one for first layer and one for second one.
- The output of first layer will be saved in 'OutMem' and the output of second layer will be saved in 'OFM'.
- Computation of second layer will be done after first layer fully completed its computations.
- All arithmetic is done in parallel.
- The third layer of buffers and kernels is where neurons are distinguished.

The diagrams can be found in the following pages.

Controller:

Datepath: