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Lab 4 Report

Exercise 1

RAM0.mif holds initial values for W array, and RAM1.mif holds for X array. The Z array overwrites RAM1, while the Y array overwrites RAM0. The write_data registers hold values that were to be written to RAM.
The SRAMs operation switched between the S_WRITE and S_READ cycles. We had to determine 4 different values in order to figure out Y and Z. The values were

- X[k]
- X[k+256]
- W[k]
- W[k+256]

In our S_READ we determine these 4 values. RAM1 reads X and RAM0 reads W. Write enable was enabled to overwrite data, which occurs in the S_WRITE state.
In our S_WRITE state, the 4 values are overwritten in RAM by our computed values. After overwriting the data, it is returned to S_READ state. 2 addresses are increased by 2 after the data being overwritten. Finally, it is returned to the S_READ state and disables write enable after the data is overwritten.