REPORT

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APPROACH:

I. MODULES:

1. reg_b : a register for storing 16 bit unsigned.
2. Register : a register used for storing 8 bit unsigned.
3. MAC : a multiplier accumulator unit.
4. addressgen : takes input as integer , generates a std_logic_vector used for storing values in ram and reading for rom.
5. controlFSM: stitches all modules together. It uses registers for storing values from rom and then feeds these to mac , mac then accumulates the product and stores it at the next register , this register then uses this stored value to write at ram.
6. FSM activates and de-activates registers at certain instants to catch the values at specified address.
7. The addresses of ram and roms are synchronized also the cntrl value to mac is synchronized.

II. Generating ram and roms:

1. We generated ram and roms and used them as a component in the controlFSM.

III. Simulations :

We then created a simulation by creating a test bench.