Adding Data Memory to the Datapath

Begin by reading your lab manual. Then answer the following questions.

1   Load & Store Operations

Data memory has two corresponding operations, Load and Store. In the load operation, an element from the data memory will be read and loaded to the register file, while in the store operation an element from the register file will be written to and stored into a location in the data memory.

We have listed a sequence of tasks in the `load_store _steps.txt` file which will implement an example of store and load operations. Go through them and answer the following two questions:

- What would be the contents of the registers in the register file after the steps described in the file?

- Explain what these tests do functionally, (e.g. load register 1, store value x in memory location y, etc.)

2   Create your Own Sequence!

- Write your own sequence of steps that tests the datapath using different values and different ALU instructions. What are the expected values in the registers after your test is complete? What ALU operations have you NOT tested?

- Explain what these tests do functionally, (e.g. load register 1, store value x in memory location y, etc.)