

CENG311 Lab Session 3

Implementing Datapath

Aim

To design the datapath of the microprocessor.

Laboratory Work

Students are expected to implement the register file and special registers such as program counter, stack pointer, instruction register based on the generic register (reg16). They will also implement multiplexers, buffers and other necessary components. They will simulate the datapath.

Expected Results

Students should be able to write each component and assemble them to constitute the whole datapath. They should be able to simulate their datapath design in ModelSim.