



Figure 1: A diagram for a pipelined datapath.

**Question 4 (10 points):** Figure ?? contains a block diagram for a possible implementation of a five-stage pipeline similar to the one that we studied in class.

- (5 points) As drawn, this datapath would produce incorrect results. Explain what is wrong and what change is required in order for this pipeline to produce correct results?
- (5 points) Forwarding is a technique used to prevent delays in the execution in the pipeline. Explain which paths must be added to the datapath shown in Figure ?? to enable forwarding. Will any new muxes or changes to existing muxes be necessary?