Pipelining our processor allows faster performance, but it also introduces hazards, potential problems in our program execution. These hazards can be categorized into data and control hazards. In this module we will learn about hazards, how they can be avoided, and how to properly build pipelined processor hardware that anticipates and eliminates them. Techniques covered include forwarding and branch prediction.

By the end of this module you will be able to:

- Describe how a pipeline introduces data and control hazards into the program execution.
- Identify data dependencies in programs that could lead to a hazard.
- Describe the modifications needed to allow forwarding in a pipelined processor.
- Describe how branches can cause control hazards.
- Explain how a control hazard is handled by the modified pipeline.

INTRODUCING HAZARDS

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