

Lab Report

In this lab, hazard unit module is modified with 4 more inputs: idex_rt, idex_memread, ifid_rs, ifid_rt. The outputs of hazard unit module depend on these 4 inputs that

```
assign IFIDWrite = (idex_memread && (idex_rt == ifid_rs || idex_rt == ifid_rt)) ? 0:1;
assign PCWrite = (idex_memread && (idex_rt == ifid_rs || idex_rt == ifid_rt)) ? 0:1;
assign HazardMux = (idex_memread && (idex_rt == ifid_rs || idex_rt == ifid_rt)) ? 1 : 0;
```

When hazard is detected, stall is installed. Therefore, IFIDWrite == 0, PCWrite == 0 and HazardMux == 1.

To test the result of detecting hazard, adding the register file in the wave form to check the value in each register.