**HW4 – Implementation Report**

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When we run the BYOCIntfSW and compare in the 2nd time, we get errors in some of the first instructions.

The instructions in which we get these errors are the first 31 instructions.  
  
The reason for such behavior is that registers are reset sensitive while GPR file isn’t. That is, when we call the reset operation after running BYOCIntfSW in the first time only the registers become zero, while the GPR file holds the previous data. Therefore, in the 2nd time we use the previous data of the GPR, which disrupts the results.  
After 31 steps we finish writing to all registers – that explains why the errors disappear after exactly 31 steps.   
  
We can eliminate this using the reset operation after each run of BYOCIntfSW. Since we cannot assure that the option of resetting the memory exists, a possible solution can be a vhdl program that resets the memory.