

Computer Architecture Lab

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Assignment 4

Results And Observations:

Assembly file	Hash of state	Number of cycles	No of OF stalls	No of Wrong branch instructions
descending.asm	255541867	658	525	220
evenorodd.asm	-224294686	16	18	4
prime.asm	-1414219998	67	47	28
fibonacci.asm	-1518357572	157	162	36
palindrome.asm	155317940	110	119	18

- We've observed that this hash value remains the same whether the processor is using a pipeline or not. This suggests that the processor's internal state remains consistent regardless of the pipeline implementation.
- The "number of cycles" indicates how many clock cycles it takes for each assembly program to complete its execution.
- With pipeline implementation, we've noticed that the number of cycles is significantly reduced compared to running the program without a pipeline. This is expected since a pipeline can execute multiple instructions concurrently, making the execution faster.
- Number of Wrong Branch Instructions: This metric counts the number of incorrect branch predictions made during program execution.