

# Computer Architecture

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In the realm of computer architecture, optimizing code execution stands as a core consideration. The count of instruction lines within an assembly program and the associated cycle count are intertwined factors exerting significant influence on a computer system's overall performance. This report provides a comprehensive analysis of the correlation between the quantity of instruction lines and the requisite cycles for executing assembly code across different scenarios.

Results And Observations for Different assembly files ran on processor pipeline built in this assignment 3:

Assembly file name	Instructions	Cycles
descending.asm	277	277
evenorodd.asm	6	6
prime.asm	25	25
fibonacci.asm	66	66
palindrome.asm	41	41