Assignment 5

Anmol Sharma (CS22BT006)
Parikshit Gehlaut (CS22BT066)
Sagar Verma (MC22BT020)

March 2024

1   Abstract

In this assignment, we upgraded our processor to handle discrete events. An event consists of event time, event type, requesting element, processing element, and payload. Event queue maintains a queue of events with respect to time. When an event is invoked, the handleEvent() method of the processor is invoked. Handling an event might trigger other events to be invoked in the current cycle or any future cycle.

Assembly Program	No. of instructions	No. of Cycles	Throughput (IPC)
Evenodd.asm	6	274	0.021 897 81
Descending.asm	101	11937	0.008 461 087
Fibonacci.asm	46	3303	0.013 926 733
Palindrome.asm	35	2102	0.016 650 809
Prime.asm	19	1229	0.015 459 724

2   Observations

All of the benchmark programs' IPCs (Instructions per Cycle) are found to be between 0.021 and 0.008.
The Average Throughput turns out to be 0.015 274.
Cycle counts are larger for benchmarks with more hazards and, thus, more iterations.