

**ROLL NUMBERS:- 190010040, 190010008**

**Following table summarizes the data for each program file with Normal Pipeline Core Model:-**

File Name	No. of Instructions executed	No. Of Cycles	CPI (Cycles per Instruction)	No. Of data-interlocks	No. of branch taken
Descending.out	365	491	1.34	88	122
Evenorodd.out	6	14	2.33	0	4
Fibonacci.out	94	140	1.48	16	42
Palindrome.out	56	93	1.66	7	33
Prime.out	34	46	1.35	5	8

**Following table summarizes the data for each program file with Latency Modelling in Pipeline Core Model:-**

File Name	No. of Instructions executed	No. Of Cycles	CPI (Cycles per Instruction)	No. Of data-interlocks	No. of branch taken
Descending.out	365	17565	48.12329	88	122
Evenorodd.out	6	286	47.66667	0	4
Fibonacci.out	94	4186	44.53191	16	42
Palindrome.out	56	2424	43.28571	7	33
Prime.out	34	1407	41.38235	5	8

**Observations:-**

- 1. The CPI value in latency modelling is in range of 40-50 while in Normal it is 1-2.**
- 2. The reason being using latencies during ALU Computations, Memory Accesses and write operations we are having more number of cycles for same number of instructions.**