1. When you place an order at a restaurant and they assure to deliver it in 30 minutes, is that a guarantee of their latency or throughput?

2. If the same restaurant as above fails to get your order in time due to the rush of orders on Christmas Eve, is that reflective of their latency of throughput?

3. In order to improve performance of a system, should the latency increase or decrease? Similarly, should the throughput increase or decrease to improve the performance?

4. What amongst the given conditions could change in the following situations? Choose between a set, one or none of: Number of Instructions Executed, Cycles Per Instruction, clock cycle time.

   a) Same binary is run on two different CPUs with the same instruction set.

   b) Two separate programs where one program has more floating point instructions

   c) Processors from two different generations.
5. Calculate the time taken to execute a program with following conditions:

a. A program with 10000 instructions where the CPU has a CPI of 1.5 and a frequency of 600 MHz.

b. A program with 200 instructions wherein CPU has a CPI of 0.9 and a frequency of 1 GHz.

6. Calculate the number of instructions for a program if it takes 5 seconds to execute that program on a CPU with 1.2 CPI and 500MHz frequency.

7. Calculate the clock cycle time of a CPU if takes 3 seconds to execute a program with 900 instructions on a CPU with 1.5 CPI.