Homework #4

Question 1:

a) How can the ideas of "degrees of commitment" be used in increasing the performance of transaction processing during network partitioning?

b) What is view-serializability and how it can be used in network partitioning?

c) How can checkpoints be used to maintain consistency and help in recovery after a failure?

Question 2: How would you change the design and algorithms for distributed database processing if the communication delay was three time higher than normal?

Question 3: How would you change the design and algorithms for distributed database processing if the communication delay was almost zero?

Question 4: How would you change the design and algorithms for distributed database processing if there were multiple and frequent failures (like sites failing and recovering, network partitions, variable communication delays, large number of lost messages)?

Question 5: What are the type of attacks in internet and mobile communications. How transaction processing algorithms can be designed to deal with some of them?