Student's name:
Student's code:
Class:

Class Exercises
Module: Distributed Systems
Chapter 2: Architectures

Question 1: If a client and a server are placed far apart, we may see network latency dominating overall performance. How can we tackle this problem?

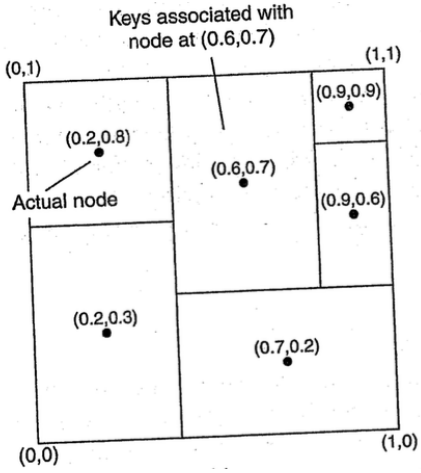
Question 2: What is a three-tiered client-server architecture?

Question 3: What is the difference between a vertical distribution and a horizontal distribution?

Question 4: In a structured overlay network, messages are routed according to the topology of the overlay. What is an important disadvantage of this approach?

Question 5: Consider a chain of processes P1 , P2 , ..., P n implementing a multitiered client-server architecture. Process P_i is client of process P_{i+1}, and P_i will return a reply to P_{i-1} only after receiving a reply from P_{i+1} . What are the main problems with this organization when taking a look at the request-reply performance at process P_1?

Question 6: Considering that a node in CAN knows the coordinates of its immediate neighbors, a reasonable routing policy would be to forward a message to the closest node toward the destination. How good is this policy?



Question 7: What are the benefits of Microservices architecture compared to monolithic architecture?

Question 8: Design yourself an e-commerce system using Microservices architecture.