CSE762
Homework # 1

Problem 1

What are the features or services that can be used to define and characterize computing systems? Use these features or properties to compare and contrast the computing systems built on the basis of

1. single operating system in a parallel computer
2. network operationg system
3. distributed system
4. high performance distributed system

Problem 2

What are the main driving forces toward the development of high performance distributed computing environment? Describe four classes of applications that will be enabled by high performance diestributed system. Explain why these applications could not run on second generation distributed systems.

Problem 3

Investigate the evolution of distributed systems and study their characterstics and applications. Based on this study, can you identify additional features, to those discussed in Section 3, and applications that are associated with each generation of distributed systems?

Problem 4

With the rapid deployment of ATM-based networks, hub-based networks are expected to be widely used. Explain why these networks are attractive.

Problem 5

Compare the functions of data link layer with those offered by the transport layers in the OSI reference model.

Problem 6

Compare the distributed system architectural models by showing their advantages and disadvantages. For each architectural model, define the set of applications that are most suitable for that model.