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| **KSU - CCIS** | **CSC 456** | **Spring 1431/32 - Mid Term1** |

**Question 1:**

1. Give a definition of a distributed system.
2. What are the main reasons for developing distributed systems.
3. What are the main symptoms and characteristics of distributed systems.
4. Define the following terms and explain how they could be increased in distributed systems:
   1. System scalability.
   2. System reliability.
   3. Openness.

**Question 2:**

1. What are the main differences between the frontal architecture models and the collaborative processing architecture models.
2. The internet offers a universal access to different types of servers.
   1. Illustrate the Internet universal Client/Server architecture model.
   2. Enumerate some of the different existing technologies that offer access to the different types of servers.
3. Describe how the publish/subscribe interaction mode works.
4. Give the advantages of such interaction mode.

**Question 3:**

Let’s consider that we want to develop an application allowing users to buy and sell used cars through the web. So users can browse the offers, place new offers and make orders.

1. What are the main challenges that this application may face.