The homework topics given below are taken from the textbook. All will be done. You can do it in groups of up to 3 people. It will be uploaded to the Edestek system. It is enough for one person from the group to upload it. Your student numbers should be in the name of the project file. The project deadline is 03.12.2021.

1) Sketch a design for a home system consisting of a separate media server that will allow for the attachment of a wireless client. The latter is connected to (analog) audio/video equipment and transforms the digital media streams to analog output. The server runs on a separate machine. possibly connected to the Internet. But has no keyboard and/or monitor connected.

2) Using existing software, design and implement a BitTorrent-based system for distributing files to many clients from a single, powerful server. Matters are simplified by using a standard Web server that can operate as tracker.

3) Set up your own DNS server. Install BIND on either a Windows or UNIX machine and configure it for a few simple names. Test your configuration using tools such as the Domain Information Groper (DIG). Make sure your DNS database includes records for name servers, mail servers, and standard servers. Note that if you are running BIND on a machine with host name *HOSTNAME,* you should be able to resolve names of the form *RESOURCE-NAME.HOSTNAME.*

4) You are to implement a simple system that supports multicast RPC. We assume that there are multiple, replicated servers and that each client communicates with a server through an RPC. However, when dealing with replication, a client will need to send an RPC request to each replica. Program the client such that to the application it appears as if a single RPC is sent. Assume you are replicating for performance, but that servers are susceptible to failures.