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**COMPUTER SUBJECT:** BASIC NETWORK CONCEPTS

**TYPE:** GROUP WORK EXERCISE/DISCUSSION

**IDENTIFICATION:** HOMEWORK1/MC

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**LEVEL:** DIFFICULT

**DURATION:** 16 hours

**SIZE:** 100 lines!!

**OBJECTIVE:** Introduction to network basic

**REQUIREMENTS:** **Computer Security**

**COMMANDS:**

## **Mandatory assignment**

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The Password Cracking project is described in another document. Here are given some outlines to how the group should consider decision taking , solutions etc

### Assignment 0

For all computers in the group run Centralized version. Record the time together with the computer-speed, number of cpu's and other relevant parameters. Now you know who should be the server!

### Assignment 1

Discuss the Centralized version making sure everybody understands the program.

### Assignment 2

Decide your architecture of the Distributed architecture type 1, 2a or 2b.

Make an overall sketch of the architecture, i.e. set up a protocol for communication between server and clients, that is how do you imagine:

the start

command: getpasswords answer content of the passwords file

command: getwordchunk answer e.g. the 5000 next words in a chunk

the end: when no more words, what to do, collect all results

Be careful this is concurrent threads/clients working on the same list of words.

A semafor i.e. a lock protecting the list will be needed so they don't interfere with each other.

A semafor protecting the results (found passwords) will also be needed so they don't interfere with each other.

There might be other semafors.

*At my homepage you will find System Architecture 1+2 and below you can find my old DesignSketch for solution 2b. Be inspired BUT I urge you to do your own design and also that only groups where all are strong programmers choose this architecture*

Michaels original Design for Server is Master, Clients are Slaves



