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# Lab 2

## 1. Development Environment Setup

For this lab and all upcoming labs we will be working with emu8086 emulator. Download the emulator from this [link](#). The setup is quite simple after extracting the file.

For Linux Environments:

You can run the .exe file using [Wine](#)

For MacOS Environments:

You need to use a virtual machine using [VirtualBox](#) or [UTM](#). I prefer using a Windows-7 iso image. If you cannot find one, contact me and I will provide you with one.

You can visit this [link](#) for the full documentation of the emulator.

## 2. Problem One

We have an array of students' marks for the computer organization midterm exam. Each mark is graded out of 30. Find the following:

- The mean of the marks
- The maximum grade
- The minimum grade
- The percentage of each mark to the nearest integer. For example: If a mark is 20. Then  $20 \times 100 / 30 = 67$

## 3. Problem Two

Write a **procedure** that gets the length of a string and stores it in a defined byte in the memory. Assume that the string is followed by a 0 to mark its end

## 4. Problem Three

Delete multiple spaces from a string, e.g. “The test” should be “The test”. You have to handle cases where spaces are after the last character. Assume the string starts with no spaces.

## 5. Submission

You should submit a **DETAILED, WELL-WRITTEN** report with screenshots and codes (include the codes in your report and in separate files)

In your report you **MUST** show the test cases (corner cases)  $\Rightarrow$  1 screenshot will not be enough

**You should work individually**