**Mikrokontrolleri ülesanne**

Microcontroller task IAX0583-IAX0584

You can find the manual [siit](https://ati.ttu.ee/wiki/e/index.php/File:MKKT.pdf).  
Lab files can be found [siit](https://pld.ttu.ee/~trkal/mikrokontrollerid/).

<https://ati.ttu.ee/~trkal/mikrokontrollerid/>

[File:MKKT.pdf - ATI public wiki (ttu.ee)](https://ati.ttu.ee/wiki/e/index.php/File:MKKT.pdf)

**Microcontrollers Homework**

Perform the following task on the development board:

With the switches, 8 bits are entered in one row. The user can enter a selected number of lines, must be used matrix with dynamically allocated memory. Once the user has entered the data, he can choose whether an AND/OR/XOR function is performed on each column and the column results are displayed on the LED lights.

The number of rows in use should be displayed on the SSD (seven-segment-display). In addition, make a row delete function.

**Assessment (10p):**

Data entry with dynamic memory allocation. (2p)

Row delete function. The row number should be selected from the switches. All the following lines must move up by one after deletion (an empty hole must not remain). (2p)

Correct answers in logic operations. The logic operation should be selected with the buttons. (2p)

Displaying answers. Also includes display of switch status on LED lights at the input. (2p)

To get maximum points, the development board must always display information to the user on the screen, which must be done next and display an error text in case of wrong entries. (2p)

To use dynamic memory, it is necessary to increase the size of the heap used in the project by 100000 byte