

Homework 2

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Last summer, Emma started to learn about deep learning. As she gained more intuition, she fell deeply in love with it. Now, she must choose between 3 related frameworks she has heard of: Tensorflow, Keras, and Pytorch. She starts asking her friends about them and collecting their opinion.

Your task is to write an assembly program that takes all of the votes for Tensorflow, Keras, and Pytorch mapped to 0, 1, and 2 respectively. You must then generate a plot (like the one at the end of this document) using the votes for each category.

The total number of votes will not be given, instead, any number other than 0, 1 and 2 indicates the end of the input sequence.

Your code **must** comply with the following rules:

- You can only use the EAX, EBX, ECX, EDX, ESI, and EDI registers.
- You are not allowed to use the memory/Data segment (or BSS segment).
- You must use the read_int, print_int, and print_char functions (from the textbook) for I/O.
- You can only use the commands you have learned so far in the class.
- You cannot use MUL, IMUL, etc.

Please notice that your code will be checked for similarity. In the case of cheating the student will receive a negative point. It is your responsibility to protect your code.

Please upload only the “.asm” file on courses.kntu.ac.ir.

Example:

Input:

0 1 2 0 0 1 2 1 0 0 1 2 0 2 0 1 1 0 2 2 0 0 0 2 9

Output: (excluding the first line)

```
parallels@parallels-Parallels-Virtual-Platform:~/Desktop$ ./a.out
0 1 2 0 0 1 2 1 0 0 1 2 0 2 0 1 1 0 2 2 0 0 0 2 9
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| * | * | * |
| * | * | * |
| * | * | * |
| ~0~1~2~ |
parallels@parallels-Parallels-Virtual-Platform:~/Desktop$
```

The height of each column shows the number of votes for the category printed at the bottom. Note that the 9 at the end indicates the end of input. Also, the space between the columns is exactly 2 space characters.