Handout 3
C++ Programming
Deadline is
October 17

1a. Write a function **count_chars** that has the function head
        void count_chars(char text[])
and that performs the following task:

count_chars prints a table listing the number of occurrences of the individual characters A to Z (capitalized as well as non-capitalized) in the argument **text**. The argument **text** is assumed to be a C-string that is terminated using a NULL-character.
Example:
The program:

```
int main() {
        char text[] = "Today is a nice day for having a little picnic.";
        count_chars(text);
        return 0;
} // end main
```

shall print:
```
A, a : 5
B, b : 0
C, c : 3
D, d : 2
E, e : 2
F, f : 1
G, g : 1
H, h : 1
I, i : 6
J, j : 0
K, k : 0
L, l : 2
M, m : 0
N, n : 3
O, o : 2
P, p : 1
Q, q : 0
R, r : 1
S, s : 1
T, t : 3
U, u : 0
V, v : 1
W, w : 0
X, x : 0
Y, y : 2
Z, z : 0
```

1b. Modify/extend the function `count_chars` so that it additionally prints a bar diagram showing the occurrences of the characters A to Z. The height of each bar shall be equal to the number of occurrences of the corresponding character in the argument `text`.

For the above example, your output should look like:

```
          *
*         *
*         *
* *       *     *       *
* ***     *   * **      *      *
* *******   * *** *** *    *
ABCDEFGHIJKLMNOPQRSTUVWXYZ
```