We Need to Count Each Kind of Letter

So we want a set of counts for a string:
◦ How many A's (either case)?
◦ How many B's?
◦ …
◦ How many Z's?
◦ How many non-alphabetic characters?

How would you perform this task?

Let's Do an Example

"Try this string as an example."

How many A's? 3

How many B's? 0

How many C's? 0

How many D's? 0

How many E's? 2

Algorithm 1: Look Through String Once for Each Letter

Maybe something like this?

for each letter (and once for non-letters)
    count = 0
    for each character in the string
        if character matches letter (either case)
            count = count + 1
    store count for the letter in histogram

Another Example: a Book

Second example: the Patt and Patel textbook.

How many A's? 61,341

How many B's? 10,821

How many C's? Do you really think

How many D's? I counted these?

How many E's?

Would you approach the problem differently with a longer string?