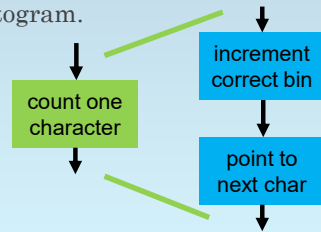


Break Down Counting a Character into Two Steps

Counting one character involves two steps.

First, we must **increment one bin** in the histogram.

Then we must **advance our pointer** to the next character in the string.



How to Choose a Bin: Use a Conditional Construct

How can we determine which histogram bin to increment?

The answer depends on the character.

We **need to use conditional constructs**.

But how?

Let's take a look at the **ASCII** sequence.

The ASCII Table Breaks into Five Regions

Here is an abbreviated version of the **ASCII** table.

x00	x40	x41	x5A	x5B	x60	x61	x7A	x7B	x7F
NUL	@	A	Z	[\	a	z	{	DEL

The characters divide into five groups.

The **blue** groups are letters.

The **green** groups are non-alphabetic.

We can **use the vertical lines as conditions**.

Start by Breaking Off the Left Region

x00	x40	x41	x5A	x5B	x60	x61	x7A	x7B	x7F
NUL	@	A	Z	[\	a	z	{	DEL

Notice that

- if a character is less than 'A',
- the character is not a letter.

Let's **start with the leftmost region**.