

Subtract z to Make the Next Comparison

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

This time, we want to subtract 'z'.
 But we already subtracted '!', so now we add '! - 'z' (it's already in R4!).
 We discard the result (store the result in R6).

Add (^ - z) to Compare with Lower Case z

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MORE_THAN_Z
ADD R2,R2,R5
BRnz NON_ALPHA
ADD R6,R2,R4
    
```

Compare with lower case z.

Add R4 ('^ - 'z') to R2 and write the sum into R6.

When Do We Have a Lower Case Letter?

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

We just wrote (original character minus 'z') into R6.

Under what conditions (N, Z, P) do we have a lower case letter?
 N and Z

How Can We Increment the Right Letter's Bin?

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

So for conditions N or Z, we want to increment one of the letter's histogram bins.

How?
 Didn't we already write that code?
 Let's just branch to it!