Run-Length Encoding

Compress a string of repeated characters (run) using a count.

Single characters remain as they are.
A run takes 2 characters: char, count.
Use a 1-bit tag to distinguish the two types.

\(< 0, A >, < 0, B >, < 1, C >, < 2 >, < 0, D >, \ldots \)

\(\text{char + count} \quad \text{Count} = \# \text{char - 1}\)

\(\Rightarrow \text{ABCCCCCD} \ldots\)

"Datapath" First

Controller Second

Inputs: \(\text{EQ}\)
Outputs: \(\text{tag}, \text{selCNT}, \text{CLR}, \text{Valid}\)