

Example

$$L(s) = \frac{s - z_1}{s^2 - 1}$$

- ▶ Rule A: $\begin{cases} m = 1 \\ n = 2 \end{cases} \implies 2 \text{ branches}$
- ▶ Rule B: branches start at open-loop poles $s = \pm 1$
- ▶ Rule C: branches end at open-loop zeros $s = z_1, -\infty$
(we will see why $-\infty$ later)

So the root locus will look something like this:

