

A recursively defined language, L

Let L be a set of strings over $\{0, 1\}$ defined recursively by:

- ▶ $1 \in L$
- ▶ If $x \in L$ then $x10 \in L$
- ▶ If $x \in L$ then $x0 \in L$

Thus, L contains only those strings that can be derived using these rules.

Notes:

- ▶ L doesn't contain any infinite length strings!
- ▶ All strings in L of length two or more start with 1 and end with 0.

Question to class: does L contain every string that begins with 1 and ends with 0?