

Exercice given at the end of Lecture 3.

By definition, a finite tree \mathbf{t} is binary if every vertex $u \in \mathbf{t}$ has either 0, or 2 children. Find the generation function of binary trees with n vertices and the number of binary trees with n vertices.

Hint. Since there are no binary trees with an even number of vertices, it would perhaps be useful to consider instead binary trees with k leaves (a leaf being a vertex without a child).