

Advanced Distributed Algorithms and Data Structures

WS 2016

Homework Assignment 1

Problem 1:

Prove Theorem 2.7. (Hint: Determine an upper bound on how many nodes can be reached by a path of length ℓ from node v in a graph of maximal degree δ .)

Problem 2:

Prove Theorem 2.8. (Hint: Generalize the definition of the d -dimensional de Bruijn graphs on slide 23 of chapter 2 to a family of b -ary de Bruijn graphs, i.e., $V = \{0, \dots, b-1\}^d$, and determine the degree and diameter of these graphs.)