Pina Kolling
piko0011

Summary: Lecture 5

Summary for the chapters X and X. [1]

Title
Content

Reduction

- reduction explained

TODO
Questions:

Reduction HAMILTONIAN PATH to SATISFIABLE

- instance: Graph G
  question: Is there a path in G that visits each node one?
- log space reduction from HP to S
- demonstrates HP not significantly harder that SAT
- write a logical formular that only becomes true when it is HP
- 4, 3, 1, 2 as path
  $x_{1,4} = T, x_{2,3} = T, x_{3,1} = T, x_{4,2} = T,$
- slide is not quite correct
- $(notx_{1,1}ornotx_{2,1})and(notx_{1,1}ornotx_{3,1})$
  $and(notx_{1,1}ornotx_{4,1})and(notx_{2,1}ornotx_{3,1})$
  $and(notx_{2,1}ornotx_{4,1})and(notx_{3,1}ornotx_{4,1})and...$
  first index: step, second: node

TODO
Questions:

Boolean Circuits

TODO
Questions:

Reduction REACHABILITY PATH to CIRCUIT VALUE

TODO
Questions:

Further examples

TODO
Questions:

CLosedness under Composition

TODO
Questions:

References

[1] Christos H. Papadimitriou. *Computational Complexity*. Addison-Wesley Publishing Company, 1994.