I Want to be a Computer Scientist When I Grow Up: Evaluating the Skills Necessary for Computer Science

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Background – CS 0

- CS 0 (CSE 111) Observations
  - Students who had grown up with computers
  - Many studies completed in 80’s and early 90’s, the students in these studies were from a different population than current students
Background – Discrete Structures

- Students that are “math-phobic”
- Mazlack: IBM PAT (mathematical word problems, arithmetic reasoning) – not a good predictor.
Background – CS I

- Exposed to Critical Thinking Test
  - Do we really want this style of Critical Thinking?
  - What about abstract reasoning ability, logical thinking ability, or spacial reasoning?
Goals & Hypotheses

- Focus has not been on the correct skills. The breadth of metrics not wide enough, and not predictive enough for the discipline.

- Identify skills and if these skills are currently possessed by “introductory” students or are the skills honed by the education.
Open Issues

- How do we identify the skills?
- Are there good tests out there to look at these skills in both programmers and students?
Bibliographic References


References - Continued

