

CS1 Chrestomathics

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Tag Workshop Organizers Meeting
February 12, 2010
Philadelphia, PA

And in conclusion

- CS 1X - an introductory CS course targeted for students without prior experience
- Attractive to under-represented groups
- More likely to choose computing
- Attraction comparable to demographics up to comparable levels
- Only one student has not persisted to graduation

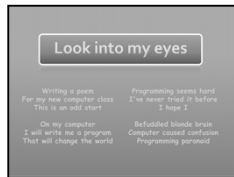
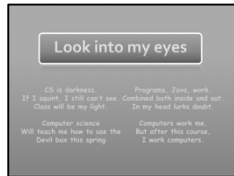


Starting point



CS 1X

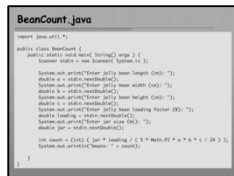
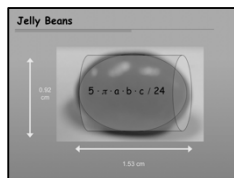
- Designed to encourage education, interest, and retention of a diverse community
- Starts with preregistration: students must meet with me - we make promises to each other



Getting a taste of computational thinking



Problem solving



Situation



From there to here

Our situation - the curious course CS 1

- Required course for all 1st year engineering students
- Introduction to programming
- First course in a BS computing degree
- Weekly closed laboratory
- Contrary to national trends course enrollment is increasing - up 25% over the last 7 years
- Improved CS 1 experience



CS 1E

- Specification
- Provide comparable computing content
- Common assignments, tests, and grading
- Open laboratories
- Result
 - Better overall CS 1 environment
 - Contributes to enrollments and helps with diversity
 - By itself not a magic bullet



CS 1 multiple entry points

- CS 1
- Open to all
- CS 1E
- Open to people with experience



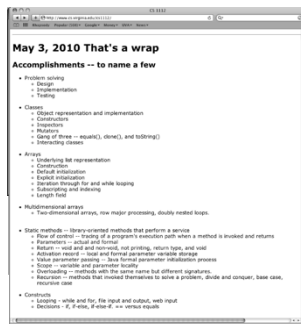
CS 1X - founding principles

- We can do better
- Meet some knowledge and experience goals as other sections
- Offer different means and practices to encourage the education, interest, and retention of a diverse community
- Frequent demographics
 - 50% Female
 - 12% African-American
 - 8% Hispanic



What's it all about

- Guided discovery
- Active and collaborative learning
- Class culture of success
- Encouraging pedagogy and examples
- Constant recruiting
- Integrated lecture and laboratory - instructor and TAs all the time
- Regular acknowledgement



Raised consciousness

Take away

- CS 1X a course targeted for students without prior experience using
 - Guided discovery with active learning
 - Integrated computer availability
 - Motivating examples with broad appeal
 - Realtime discussions of options, advantages, and rewards of computing careers
 - Establishment of a cohesive, ongoing culture
- Produced
 - Significant additional interest in computing among the students
 - Attracted other students to take the course



Give away

- How do you maintain a positive class environment?
- What would you like to change in your intro to CS course?
- What about your course should others adopt?
- What should you change, but will not?
