

# Learning is not a Spectator Sport



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# Course Redesign

- **Course redesign** is the process of redesigning whole courses (rather than individual classes or sections) to achieve better learning outcomes.
- It is about re-imagining the way we deliver instruction

# What is Success??

- Better quality of student learning
- Reduced failure rates
- Reduced drop/withdrawal rates
- More effective use of teaching resources

# Features of Redesign?

- Active learning for students
- Differentiated roles for teaching faculty
- Students *do options*...  
...but not **optional**



# Preliminary Study at University of Mississippi

## Hawkes Learning System

- 2 Fall sections of College Algebra
- 100 students

## MyMathlab

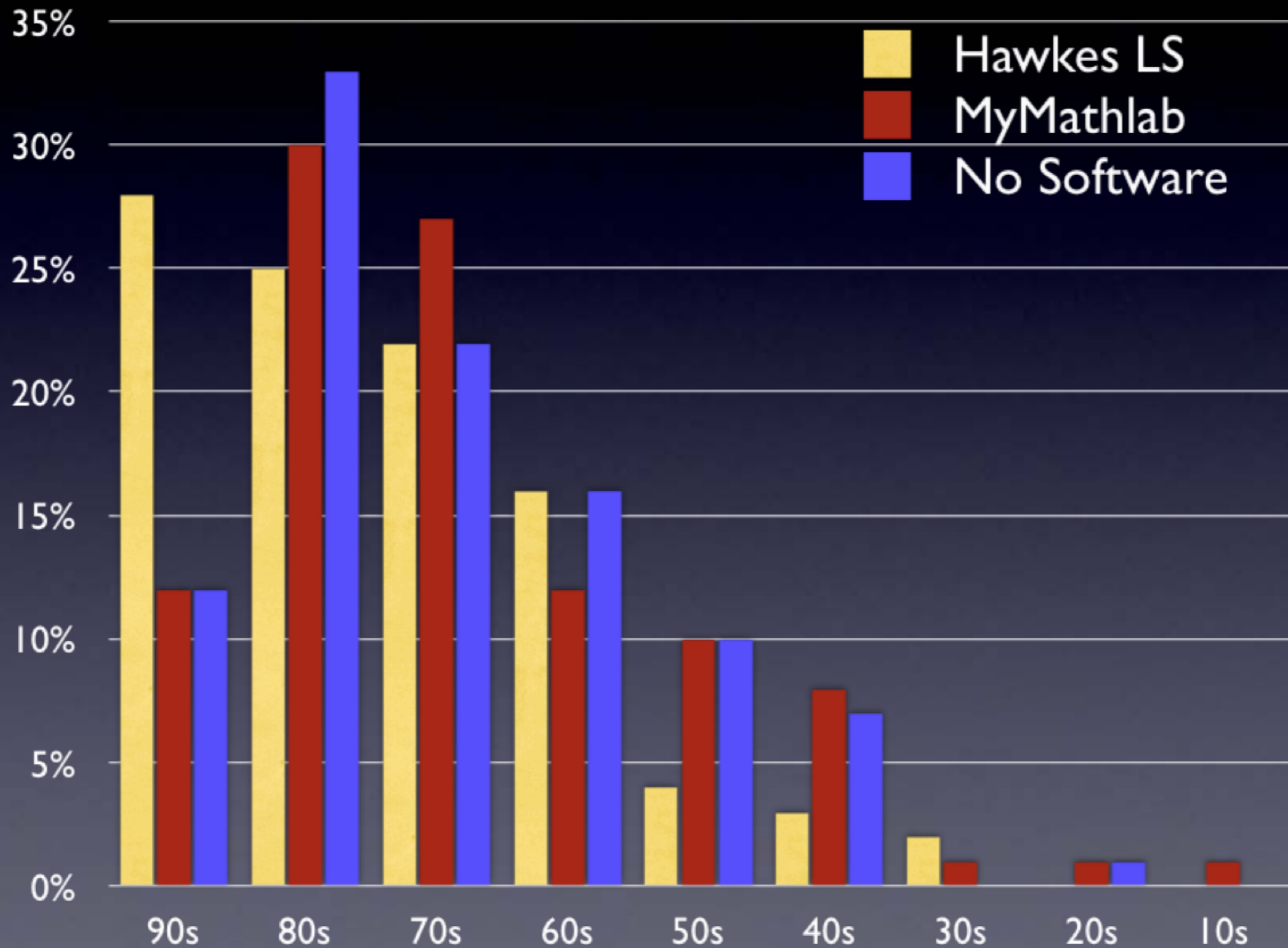
- 2 Fall sections of College Algebra
- 113 students

## No software

- 4 fall sections of College Algebra
- 200 students

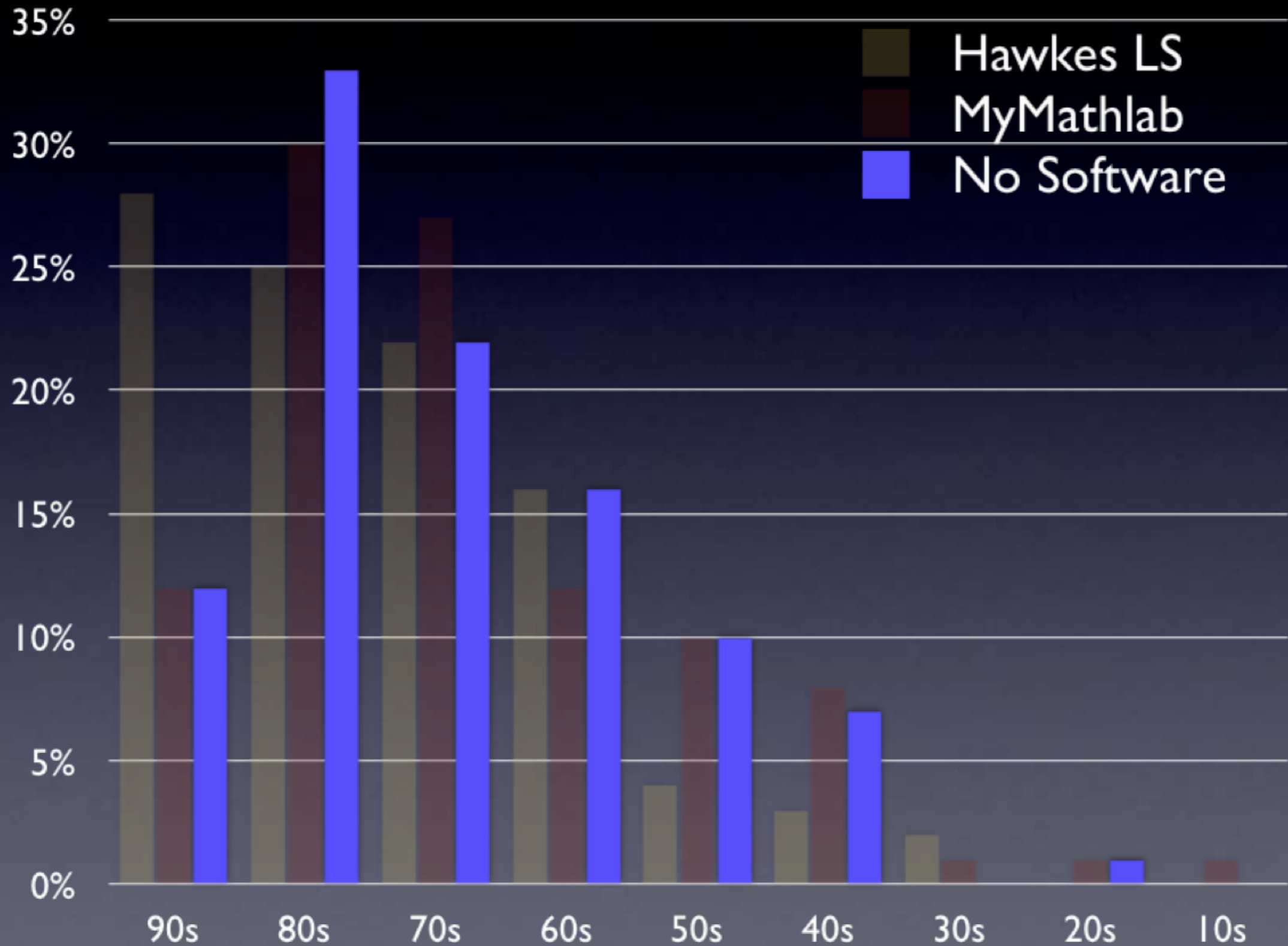
# Final Exams

*College Algebra*



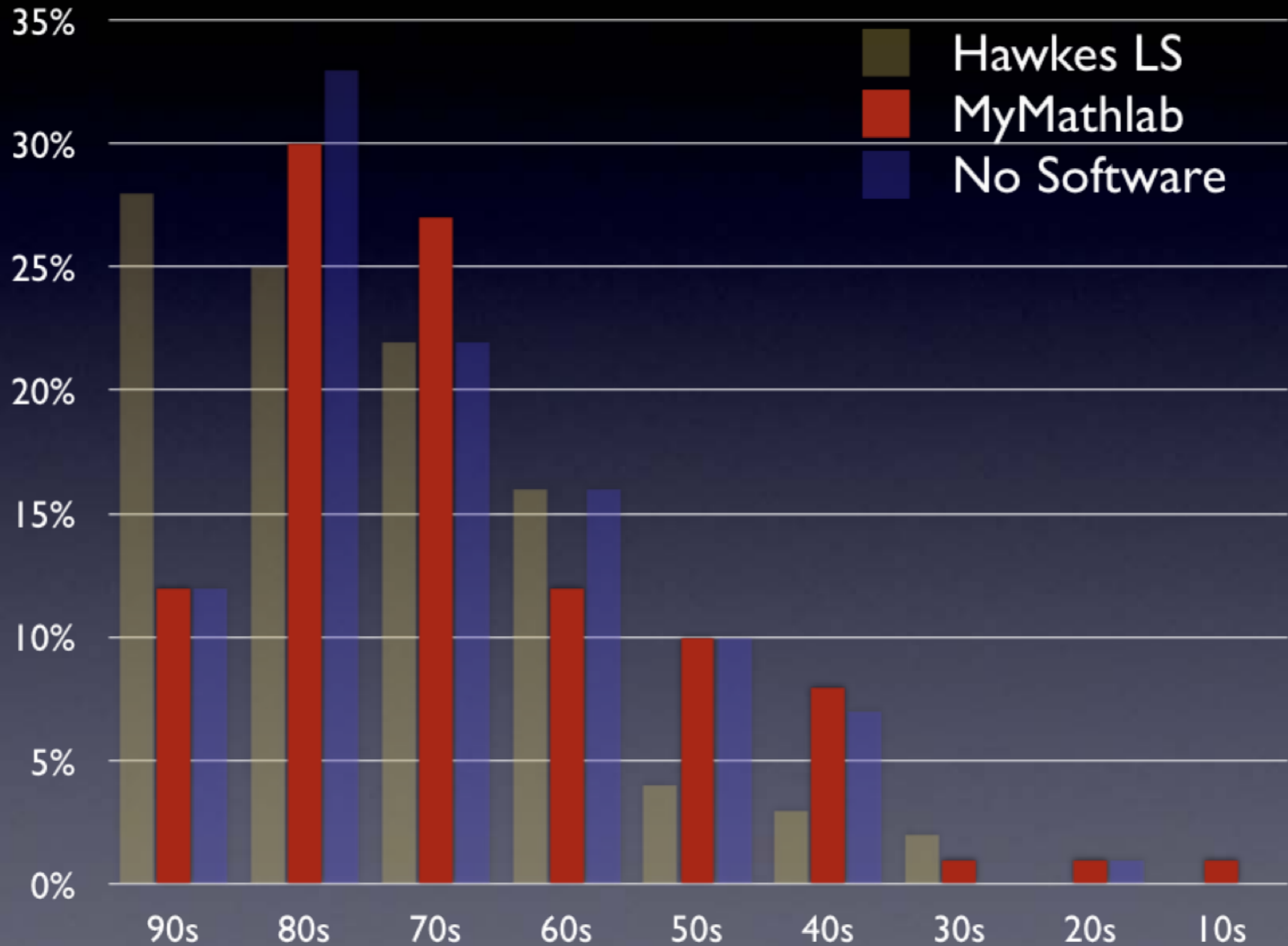
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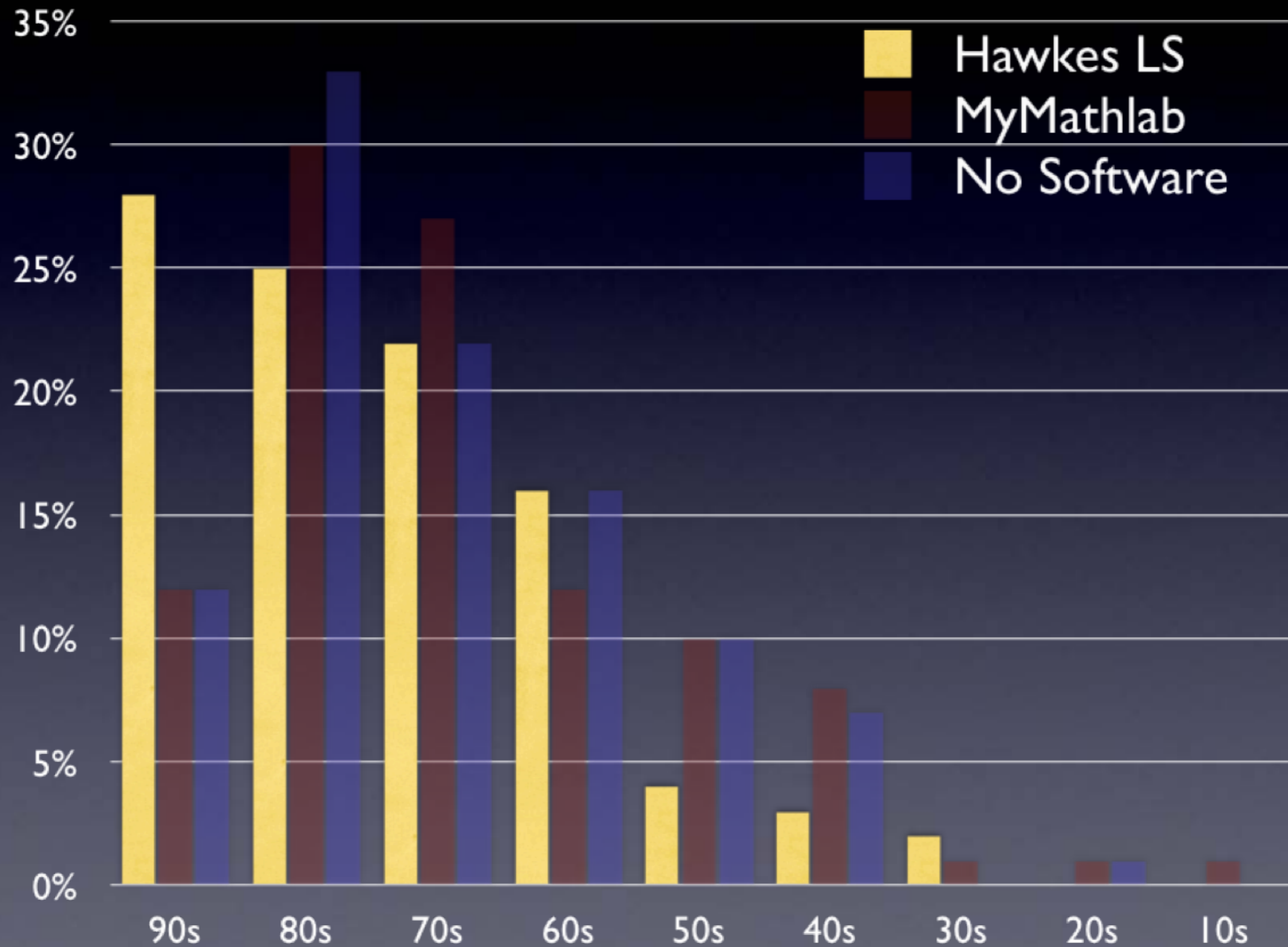
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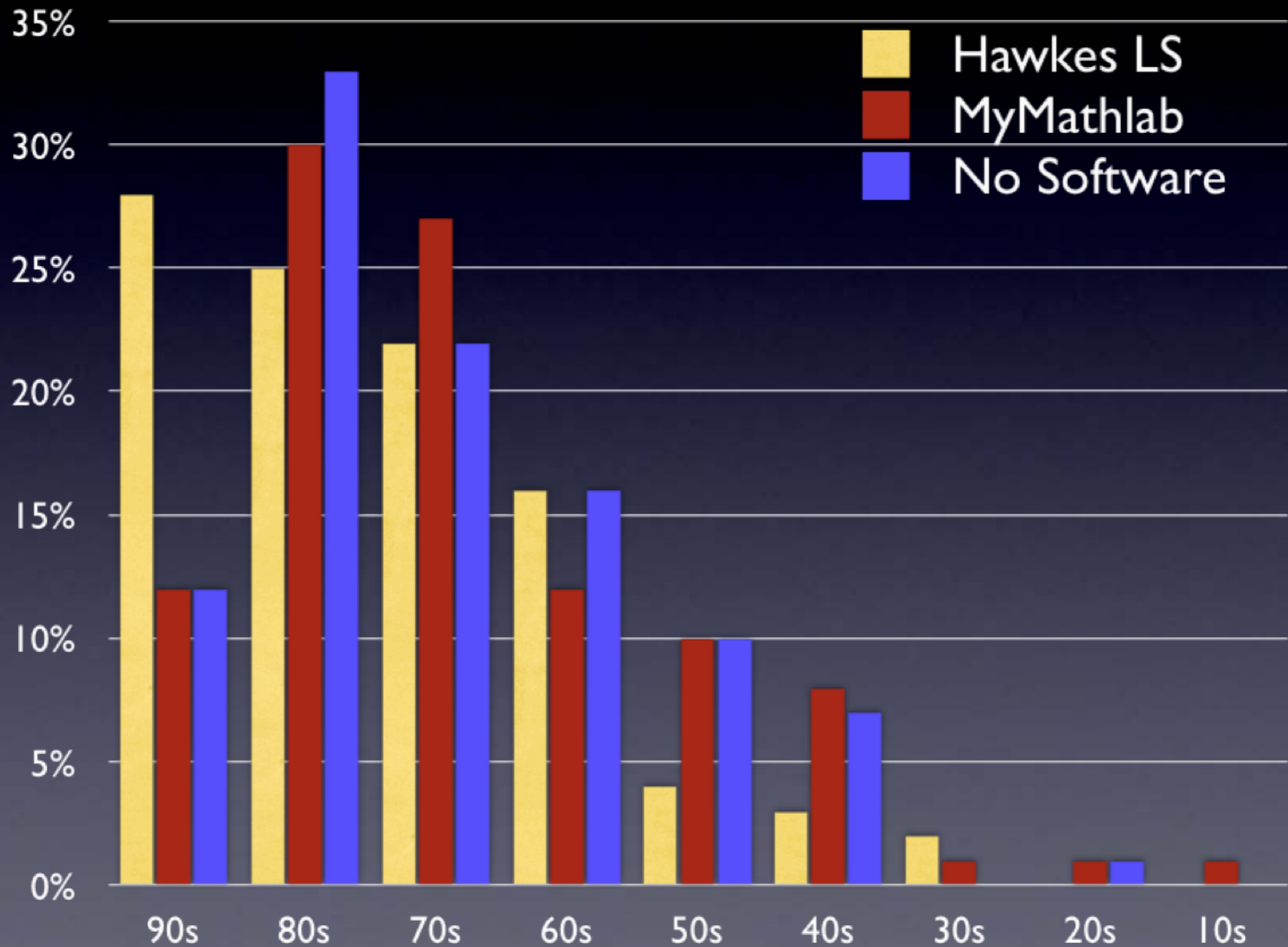
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*College Algebra*



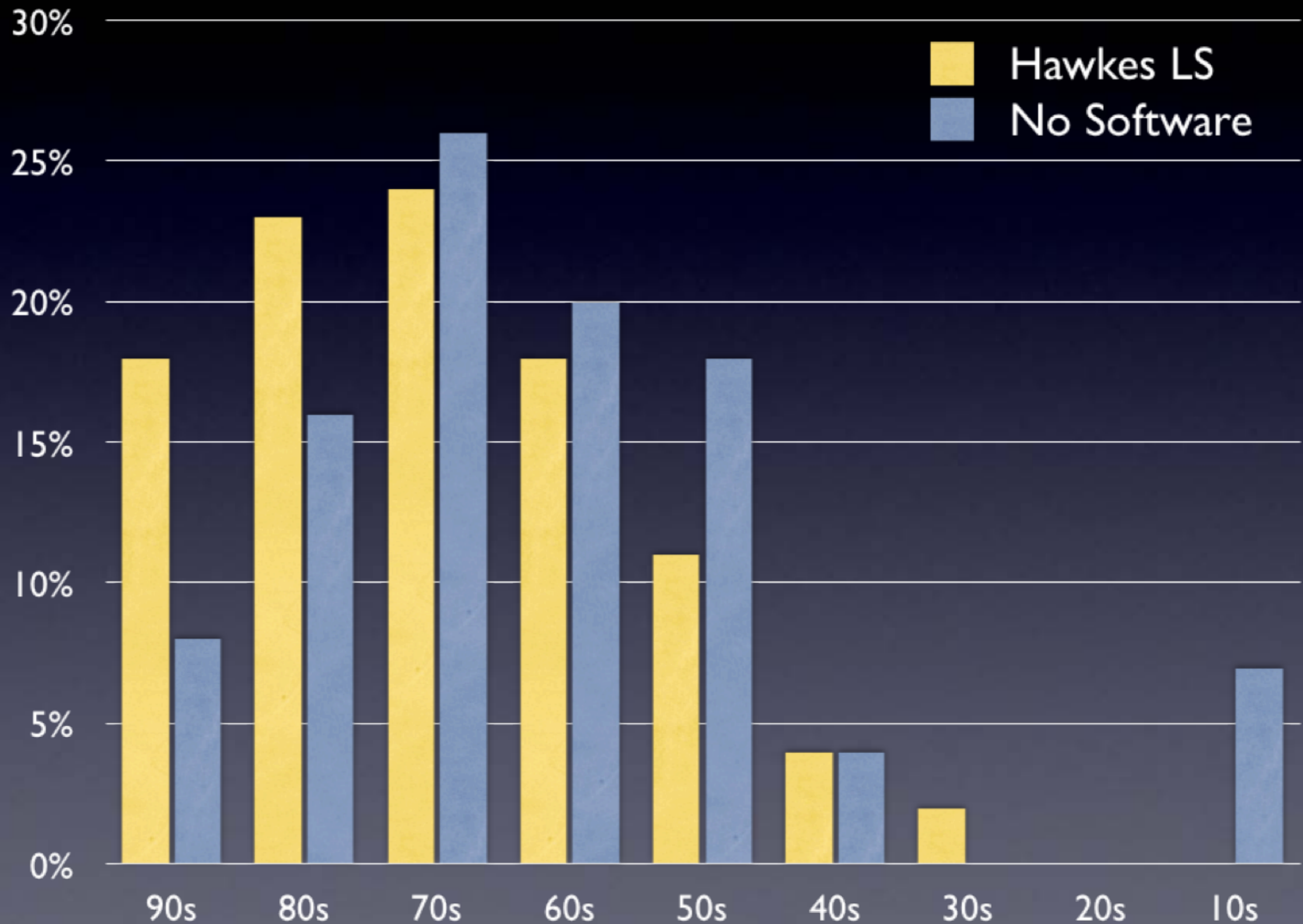
# C.A.L.M. Computer lab

- ☀ 80 Computers
- ☀ Open 60 hours each week
- ☀ Staffed with instructors and graduate students
- ☀ Students have required lab and lecture time



# Final Exams

*Elementary  
Statistics*



# What changed?

## Fall 2000

- College Algebra            966 students
- Elementary Statistics    307 students
- 26 Instructors

## Fall 2007

- College Algebra            1070 students
- Elementary Statistics    864 students
- Not 39 Instructors - **25 instructors**

# The hidden story

## Fall 2000

- Discrete Mathematics
- Introduction to Linear Algebra
- Elementary Differential Equations
- Modern Algebra I
- History of Mathematics
- Advanced Calculus I

## • Spring 2001

- Applied Modern Algebra
- Foundations of Mathematics
- Elementary Differential Equations
- Intermediate Differential Equations
- Modern Algebra II
- Advanced Calculus II
- Applied Probability I

## Fall 2007

- Discrete Mathematics
- Foundations of Mathematics
- Introduction to Linear Algebra
- Elementary Differential Equations
- Introduction to Statistical Methods
- Techniques in Teaching Sec. Level Math
- Introduction to Complex Analysis
- Introduction to Acturial Science

## Spring 2008

- Discrete Mathematics
- Applied Modern Algebra
- Foundations of Mathematics
- Introduction to Linear Algebra
- Elementary Differential Equations
- Introduction to Statistical Methods
- Combinatorics
- Introduction to Abstract Algebra
- Introduction to Mathematical Statistics

- Modern Algebra I
- Topics in Euclidean Geometry
- History of Mathematics
- Advanced Calculus I
- Mathematical Statistics I

- Topology
- Number Theory
- Modern Algebra II
- Advanced Calculus II
- Mathematical Statistics II
- Applied Multiple Regression

# The hidden story

## ● 2000-2001

- ✱ 45 Math Majors
- ✱ 40 BA students
- ✱ 5 BS Students
- ✱ PhD program put on probation

## 2007-2008

- ✱ 81 Math Majors
- ✱ 50 BA students
- ✱ 31 BS students
- ✱ 23 PhDs over the last 5 years

# Where to go from here?

- Form Departmental teams to re-imagine a course to be piloted in the Fall
- Letters of intent by February 16th
- Final proposals by April 16th
- Link [www.thencat.org](http://www.thencat.org)

# Thank you



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