

Discrete Optimization

Mail Bag - Week 2

Goals of the Lecture

- ▶ Weekly update on your progress
(in aggregate)
 - something unique to this session

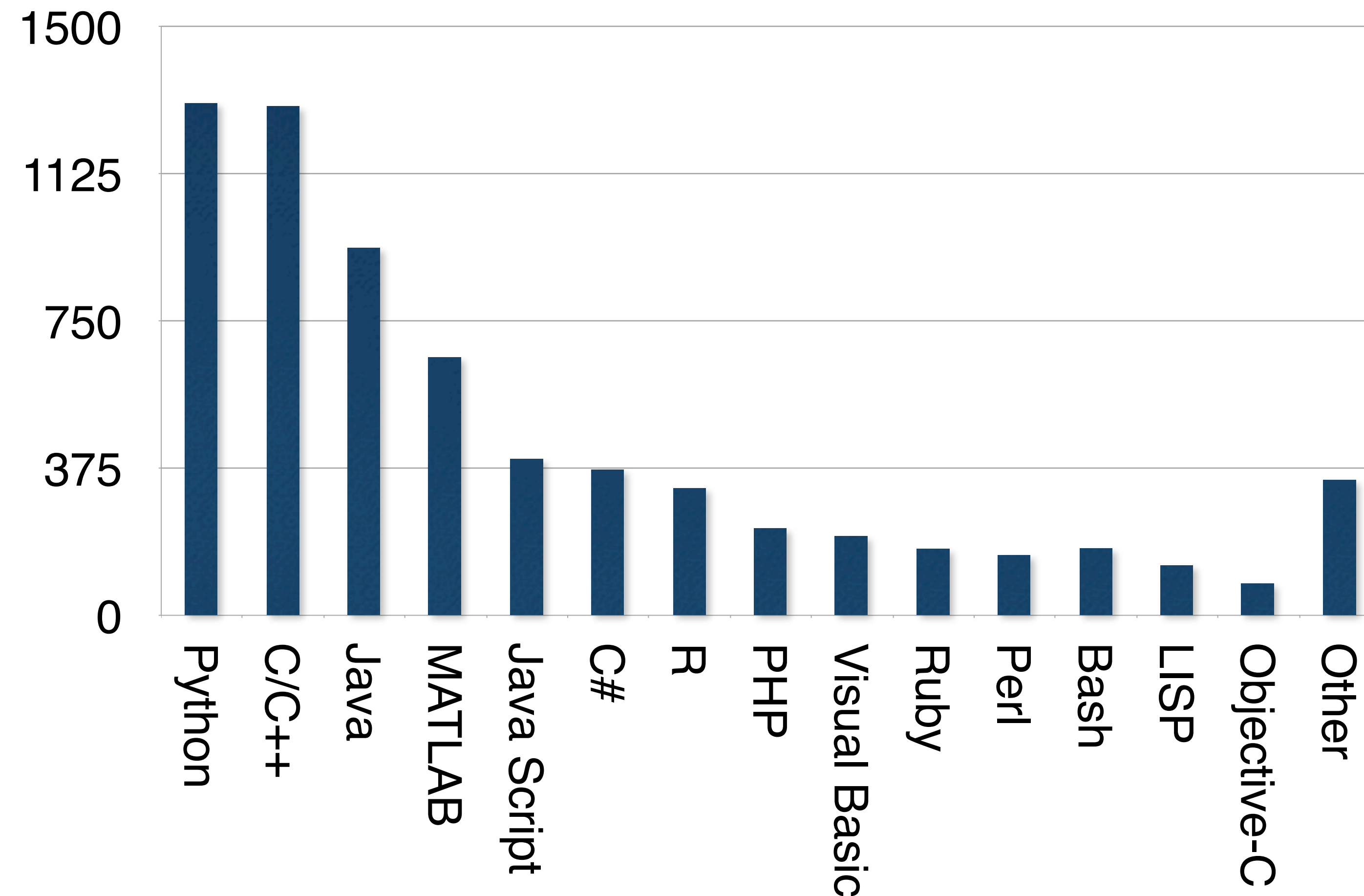
Update of the Student Body

- ▶ 11,000 students active
 - 17,000 last week

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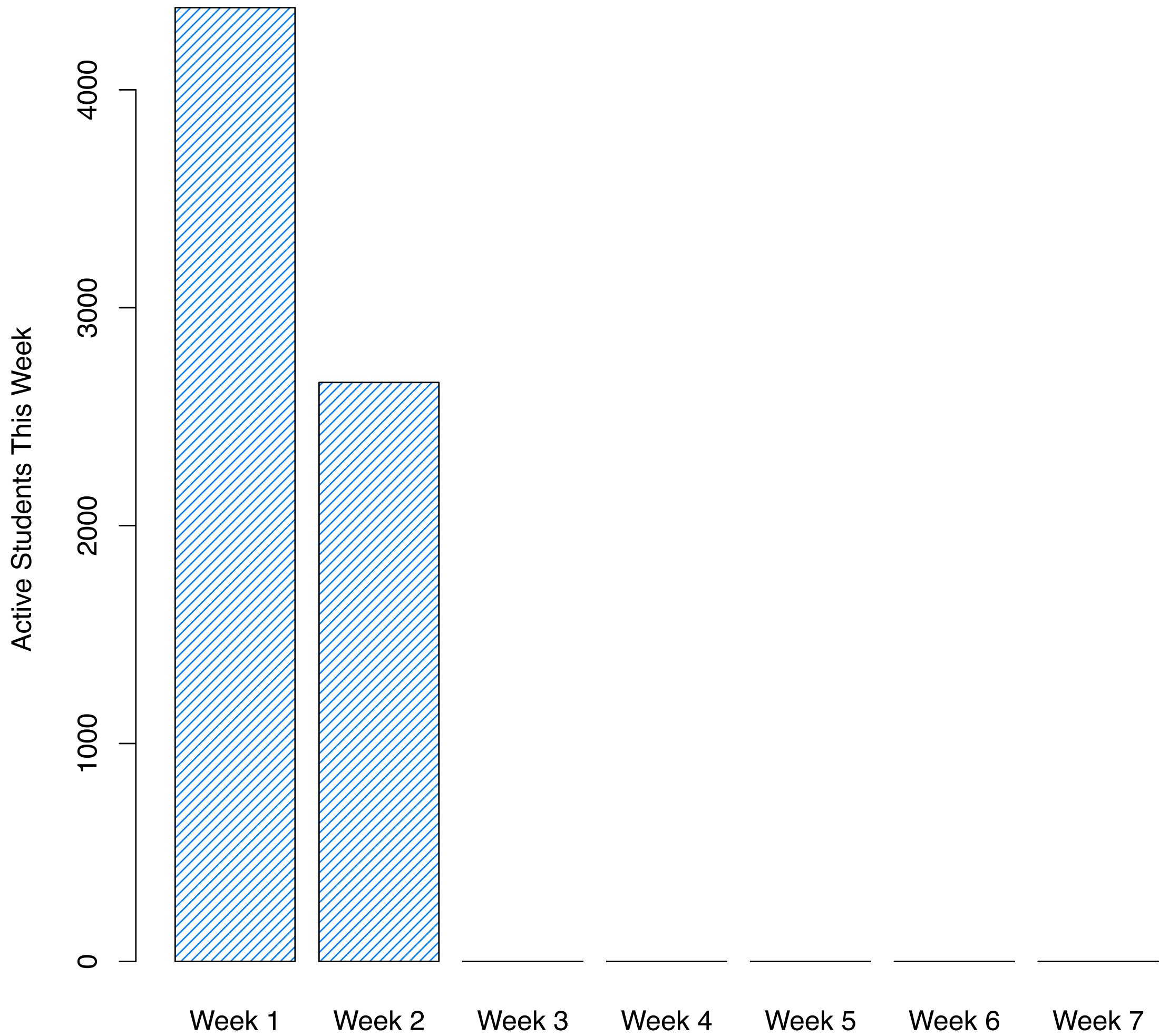
Video Activity

► Video views

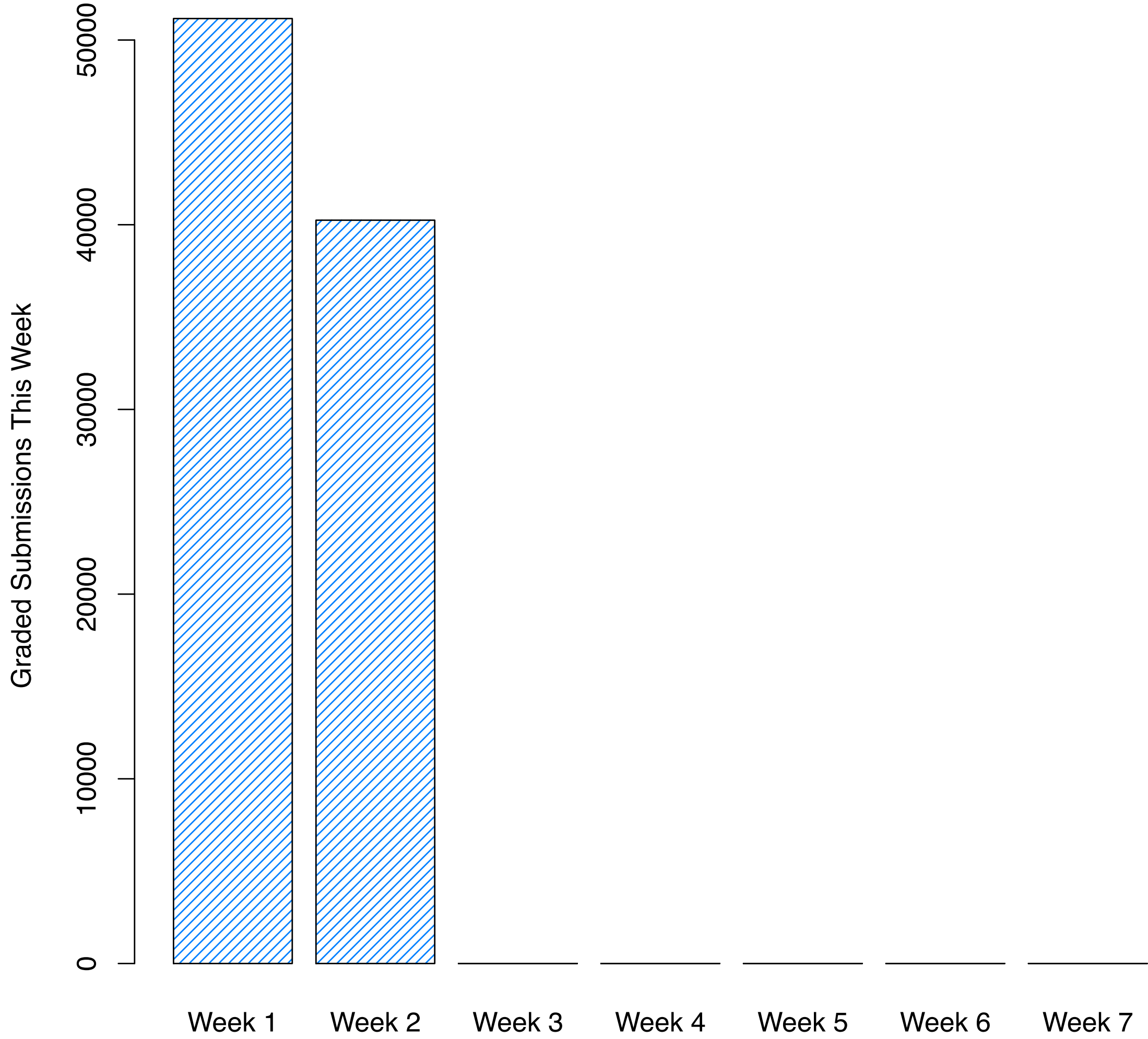
- 11,000 views of introductory videos
 - 10,000 last week
- 7,000-3,000 views of CP Lectures
- 3,000-2,500 views of LS Lectures
- 2,000 views views of LP/MIP Lectures

- 4,000 views of Mail Bag 1

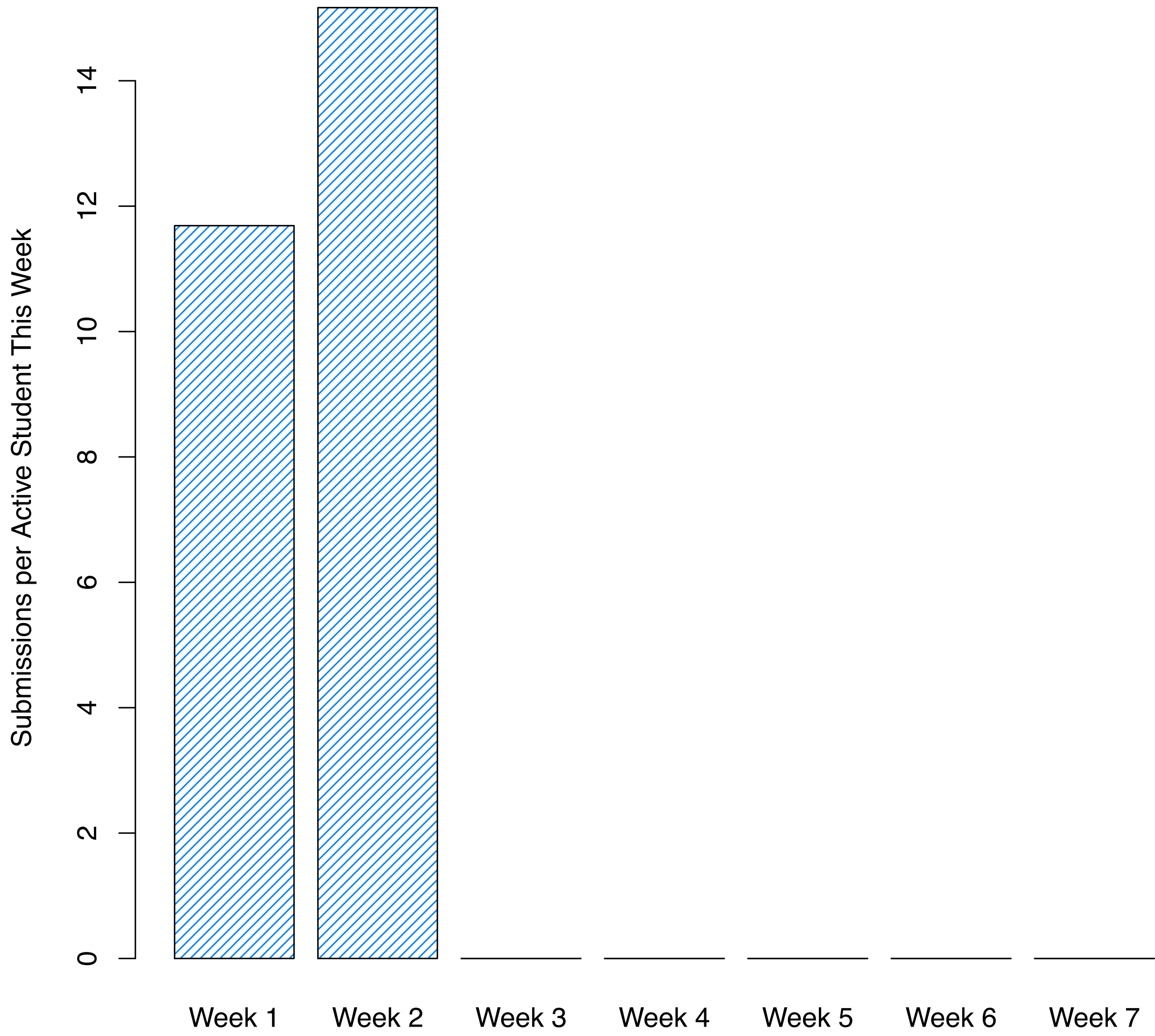
Students Active in Assignments



Submissions Graded



Submissions Per Active Student



Participation per Assignment

	Max per Problem	Min per Problem
Screen Name	5,000	
Knapsack	3,100	2,500
Graph Coloring	980	845
TSP	170	140
Warehouse Location	43	40
VRP	21	20
Puzzle Challenge	72	34

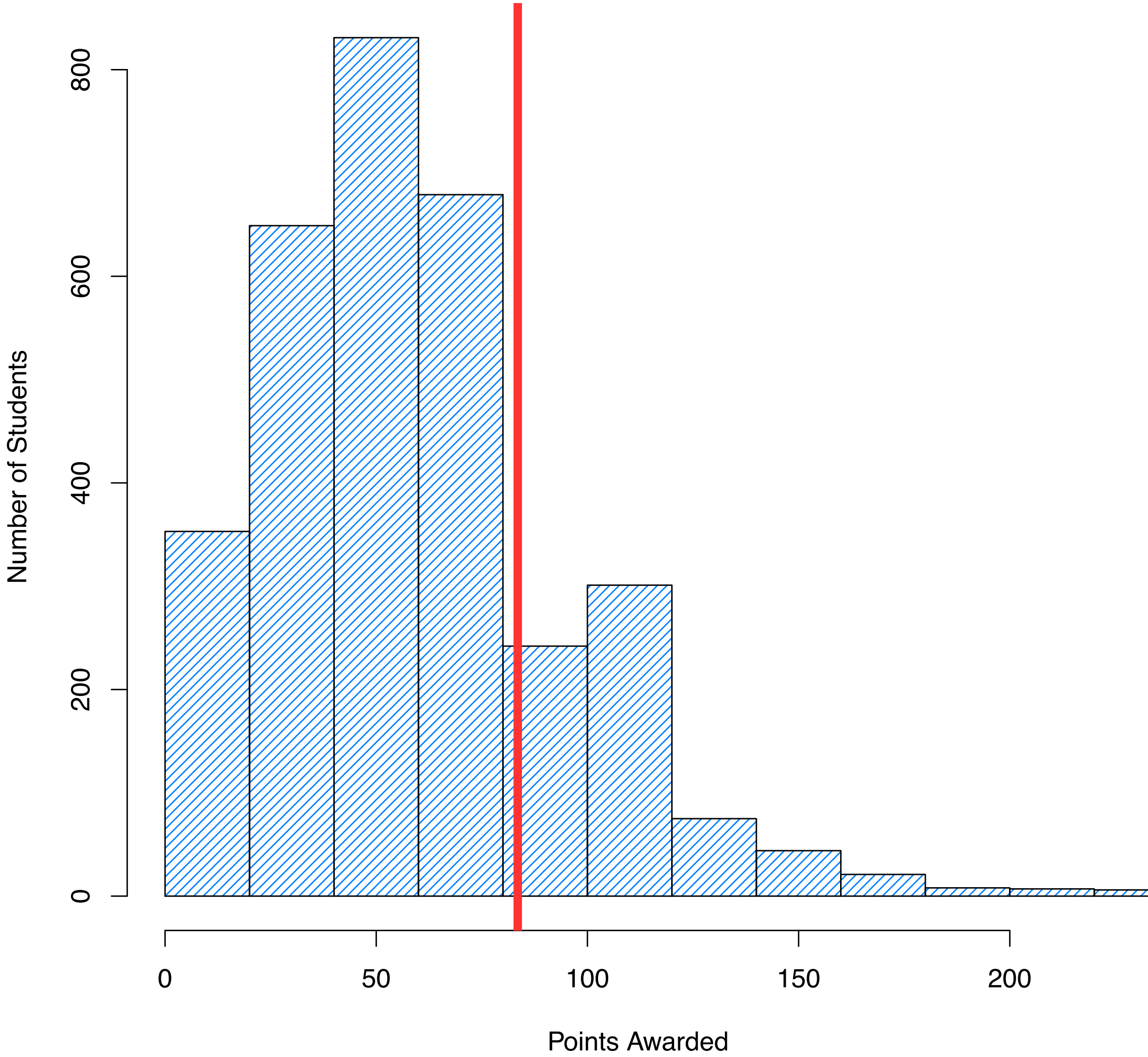
Grading

- ▶ Don't worry about getting all 10's
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 - really feasible as far as we can judge
- ▶ A little math related to grading, target points for an assignment 7*parts
 - Scalable, lower quality solution
 - $7*6 = 42$
 - Hi-quality, less scalable
 - $10*4 + 3*2 = 46$
 - Both are viable approaches!
 - 10 on all is really hard!
 - That's why we are offering distinction for that.

Points per Student



Common Questions

- ▶ Why is this class so hard?
- ▶ I am totally lost, how do I get started?
- ▶ Is the goal of the lectures to make a solver or use one?

Why so hard?

► Ideology

- I want to hold your hand (Beatles song)
 - that is not what this class is about.
- Experience NP-Hardness
 - we are not cheating :-)
- Ability to apply the ideas to other problems
 - Cover the paradigms, not specific implementations
 - Cover modeling techniques, not specific implementations

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- ## ► Nonetheless, working hard to make the class even more accessible
- 3 new lectures this week

Totally Lost

- ▶ We've added several lectures to help out
 - Greedy Algorithms 1 and 2
 - Assignments : Getting Started

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- ▶ To get distinction or the top of the leader board you need to have some real insight into the problem

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 - A *classic* discrete optimization problem

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- ▶ Traveling Salesman is different
 - Feasibility is easy, but there are **so many** feasible solutions...
 - *A classic* discrete optimization problem
- ▶ More Good News!
 - TSP is discussed in detail in LS and MIP lectures

Have Fun!

- ▶ Keep up the awesome optimization!