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**Daily Streak**

Keep learning to maintain your streak!

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3

W

In Progress

Mathematics

65% complete

Calculus 101

Computer Science

30% complete

Python Programming

Humanities

15% complete

Art History

Logged in successfully!

Welcome to LearnHub.

Continue Learning**Introduction to Calculus**

Calculus 101

⌚ 15 min

**Python Data Structures**

Python Programming

⌚ 12 min

**Renaissance Art Overview**

Art History

⌚ 20 min

JD

Jamie Doe

jamie.doe@example.com

**8**

Courses In Progress

**12**

Completed Courses

**48**

Hours Studied

**15**

Achievements

Account

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Display Name

Alex Johnson

Bio

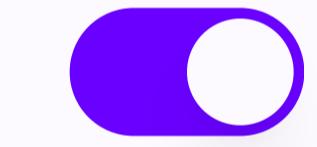
Computer Science student at State University

 Save Profile

Notification Settings

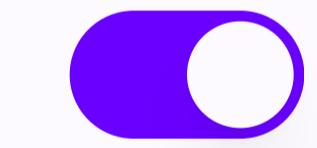
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Daily Reminders

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Categories

All Courses

Mathematics

Computer Science

Humanities

Science

Business



Mathematics

Calculus 101

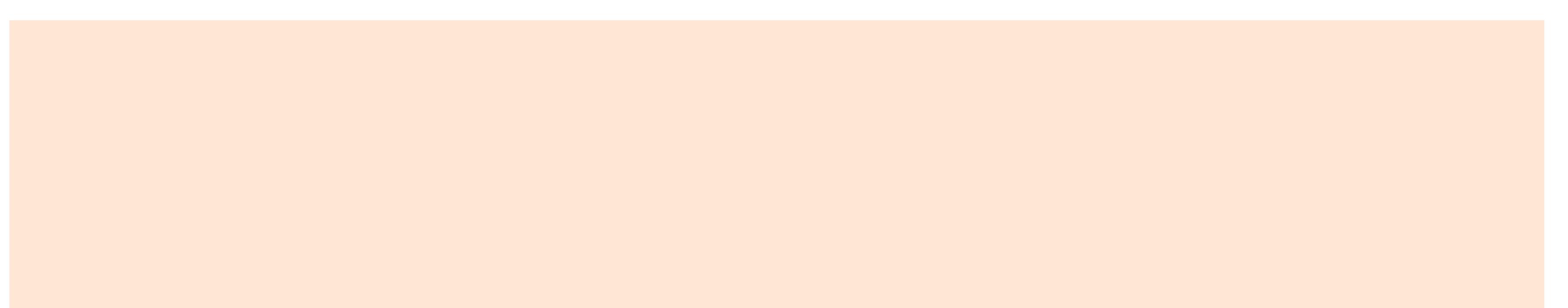
12 lessons



Computer Science

Python Programming

8 lessons



Humanities

Art History

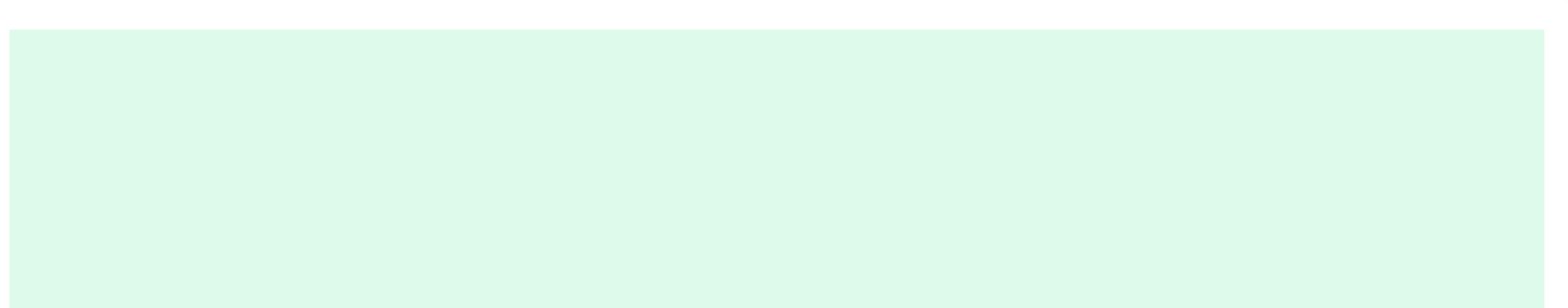
10 lessons



Science

Chemistry Fundamentals

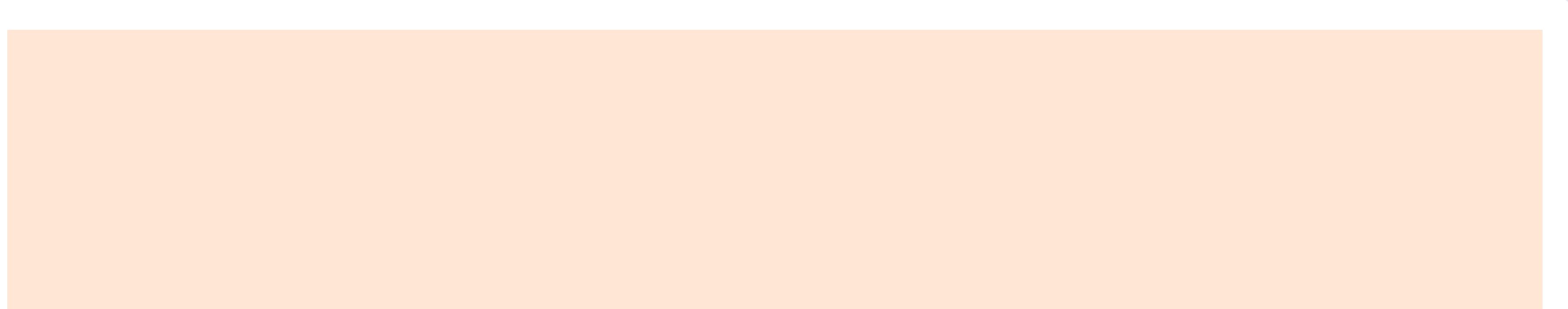
14 lessons



Business

Introduction to Economics

9 lessons



Mathematics

Linear Algebra

11 lessons

Calculus 101

By Prof. Jane Smith

Learn the fundamentals of calculus, from limits and derivatives to integrals and applications. This comprehensive course covers all the essential topics needed to build a strong foundation in calculus.

Course Progress

2 of 12 lessons completed

Resume Course 

Course Content

1 Introduction to Limits

⌚ 15 min



2 Continuity and Differentiability

⌚ 20 min



3 Introduction to Calculus

⌚ 25 min



4 Derivatives and Rules

⌚ 30 min



5 Applications of Derivatives

⌚ 35 min



6 Introduction to Integration

⌚ 25 min



7 Techniques of Integration

⌚ 30 min



8 Applications of Integration

⌚ 35 min



9 Improper Integrals

⌚ 20 min



10 Differential Equations

⌚ 25 min



11 Sequences and Series

⌚ 30 min



12 Final Review

⌚ 40 min





Calculus 101

Lesson 3 of 12

2 completed

10 remaining

Introduction to Calculus

15 min read

This introductory lesson covers the basic concepts of calculus including limits, derivatives, and integrals.

Calculus is a branch of mathematics that focuses on studying rates of change and accumulation. It provides a framework for modeling systems where there is change, and for predicting future behavior based on current conditions.

There are two main branches of calculus: differential calculus and integral calculus. Differential calculus is concerned with rates of change and slopes of curves, while integral calculus focuses on accumulation of quantities and areas under or between curves.

One of the fundamental concepts in calculus is the limit. A limit is the value that a function approaches as the input approaches some value. Limits are essential for defining derivatives and integrals.

The derivative of a function represents the rate at which the function is changing at a given point. Geometrically, it can be interpreted as the slope of the tangent line to the function's graph at that point.

The integral of a function, on the other hand, represents the accumulation of quantities. It can be interpreted geometrically as the area under the curve of the function.

 Calculus 101

Lesson 3 of 12

 2 completed

10 remaining

[Back to Lesson](#)

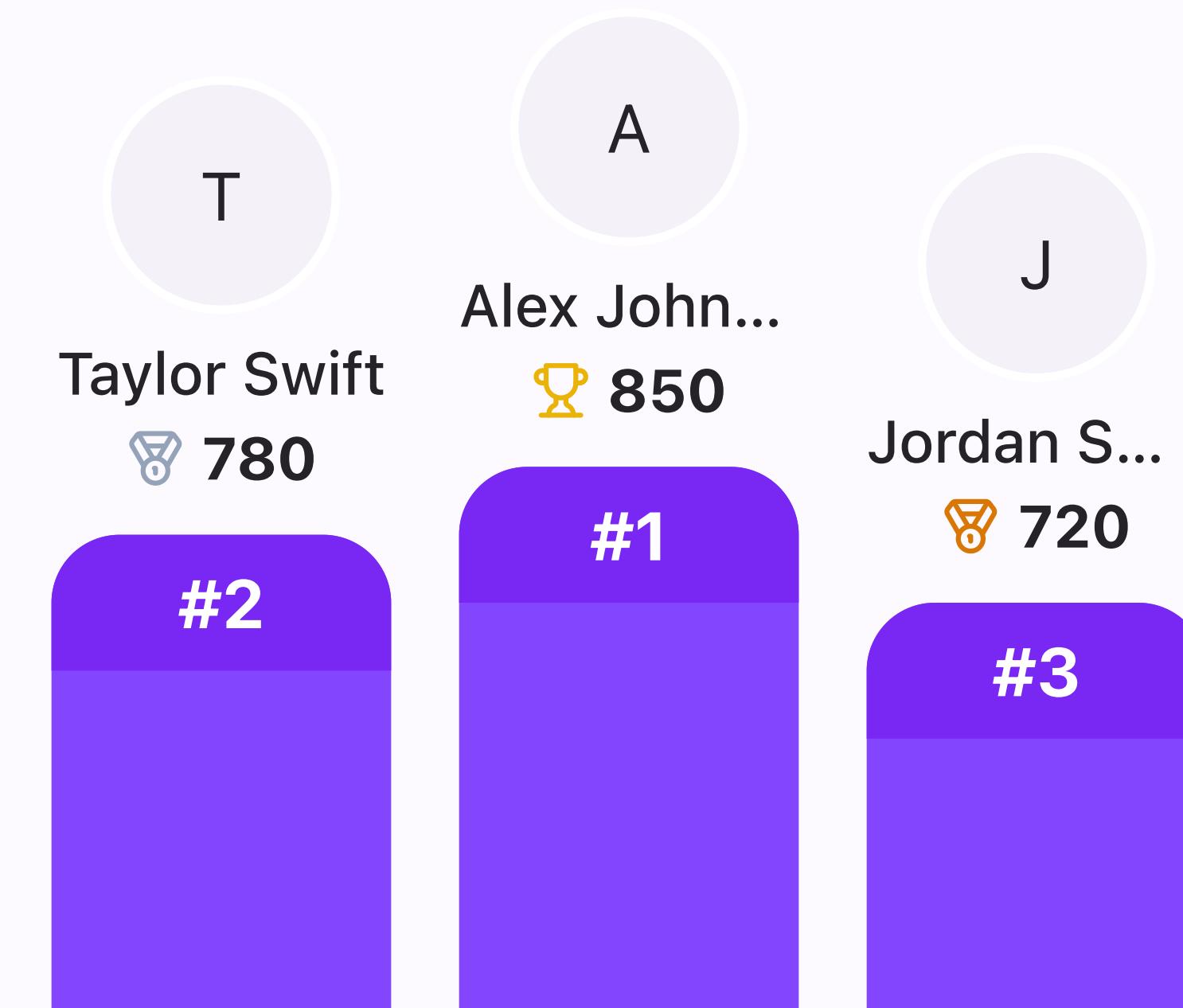
Question 1 of 5

**What is the derivative of $f(x) = x^2$?** A $f'(x) = x$ B $f'(x) = 2x$ C $f'(x) = 2$ D $f'(x) = x^2$ < PreviousCheck Answer

See how you rank among other learners

This Week

All Time



4 M Morgan Stanley 650

5 J Jamie Rodriguez You 610

6 C Casey Williams 590

7 R Riley Thompson 560

8 Q Quinn Martinez 530

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1,247+12% from last month

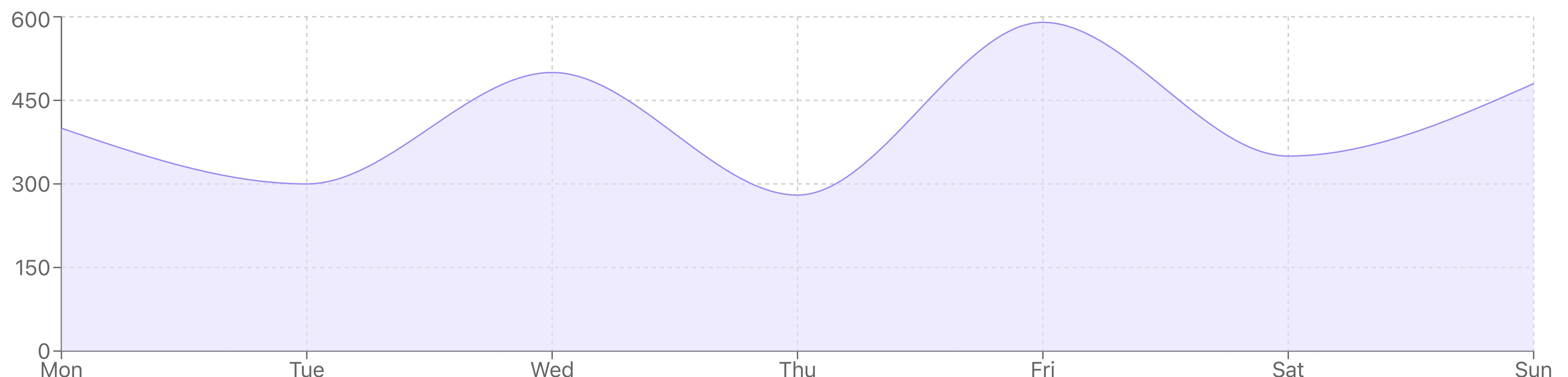
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24+3 new this month

Quiz Completion

68%+5% from last month

User Activity (Last 7 Days)

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Course Overview

[+ Add Course](#)

Featured	Course Name	Enrolled	Completion Rate	Actions
	Introduction to Computer Science	247 students	<div style="width: 68%;">68%</div>	Edit Delete
	Data Structures and Algorithms	183 students	<div style="width: 42%;">42%</div>	Edit Delete
	Web Development Fundamentals	315 students	<div style="width: 79%;">79%</div>	Edit Delete
	Machine Learning Basics	156 students	<div style="width: 35%;">35%</div>	Edit Delete