1.00 for Life
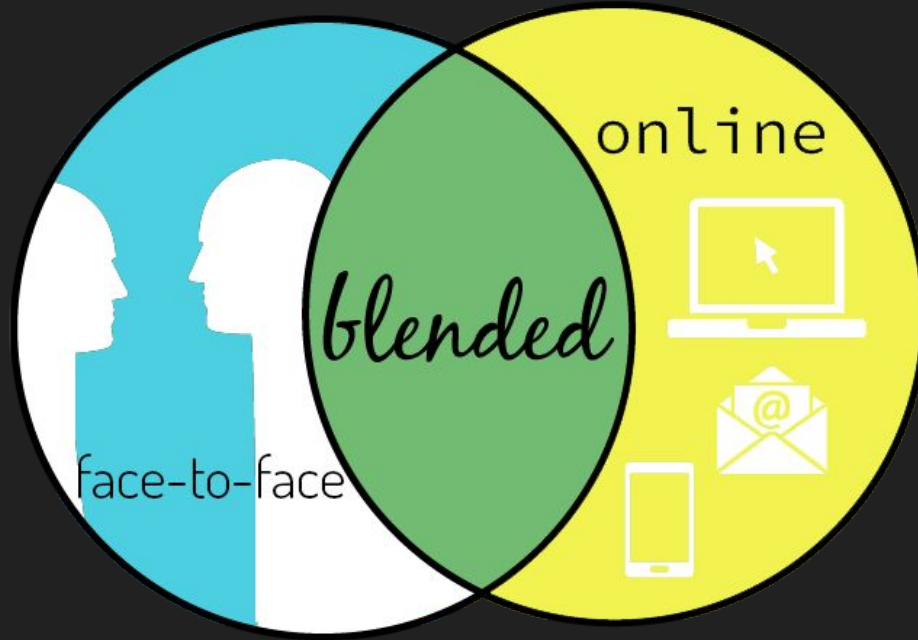
Chao Cheng
Mentor: Dr. John R. Williams

Introduction
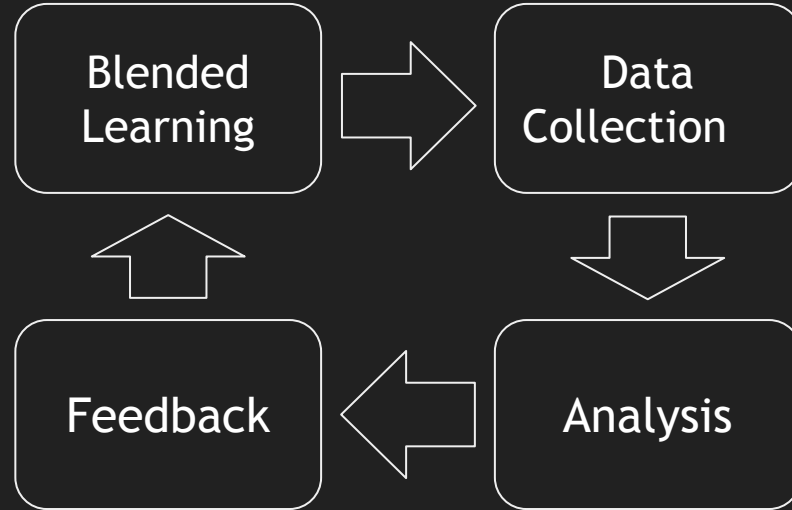
Benefits of Blended Learning

- Flexibility
- Cost
- Individualized Teaching

How Can We Maximize the Effectiveness of a Blended Learning Model of Teaching?

```
┌──────────────┐          ┌──────────────┐
│   Blended    │   ──▶    │     Data     │
│   Learning   │          │  Collection  │
└──────────────┘          └──────────────┘
       ▲                          │
       │                          ▼
┌──────────────┐          ┌──────────────┐
│   Feedback   │   ◀──    │   Analysis   │
└──────────────┘          └──────────────┘
```

Data Analysis

- Track student usage of online materials
- Create predictive model to determine student success based on assignments

Analysis of Course Materials

- Supplementary Videos
  - Number of views of segments
- Webpages
  - Number of daily views (Google Analytics)
- Online Forums: Piazza, Google Classroom
  - Number of daily questions
  - Number of daily comments

Goal: to evaluate the effectiveness of materials and

their correlation with grades

Lecture 3 - Functions

Preparation Material - Functions

- 🎥 Function Basics
- 🎥 Functions are Objects
- 🎥 Scope: Basics
- 🎥 Scope: Forgetting Var
- 🎥 Scope: Nested Functions
- 🎥 Functions Provide Scope

Preparation Material - Timers

- SetTimeout vs SetInterval
- 🎥 Basic Timers
- 🎥 Repeating Timer
- 🎥 Animation Basics Using Timers

Mini Lecture

- 🎥 Web Document Basics - Class Mini Lecture
- Web Document Basics - Slides
- Binary - Slides

Active Learning

- Binary Counting Exercise

Predictive Model

- How to measure progress?
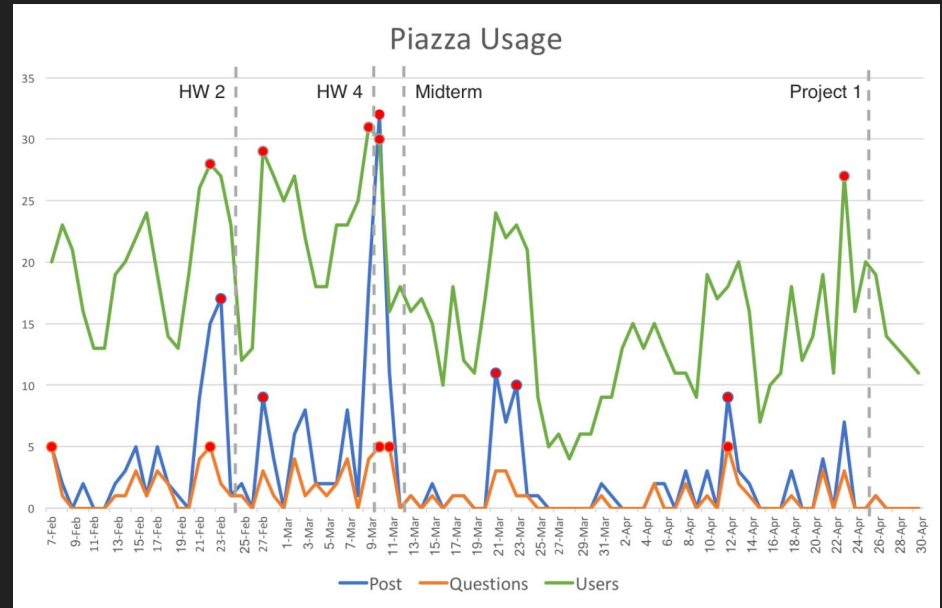
```
✓ Correct b value
✓ Correct a value
✓ Returns a function
✓ Correct y value, given an x


4 passing (31ms)
```
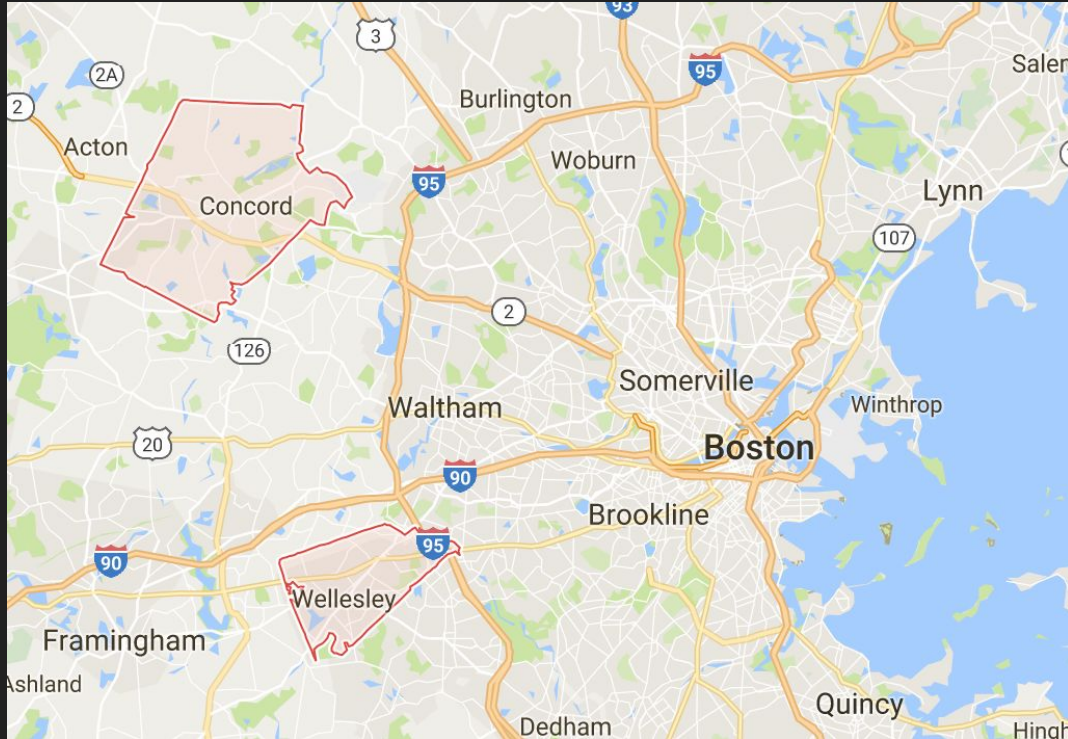
- Utility: tool for instructors to determine the likely performance of students on midterm or final

Summary of Goals

- Provide feedback for instructor
- Use predictive model as tool to measure student success
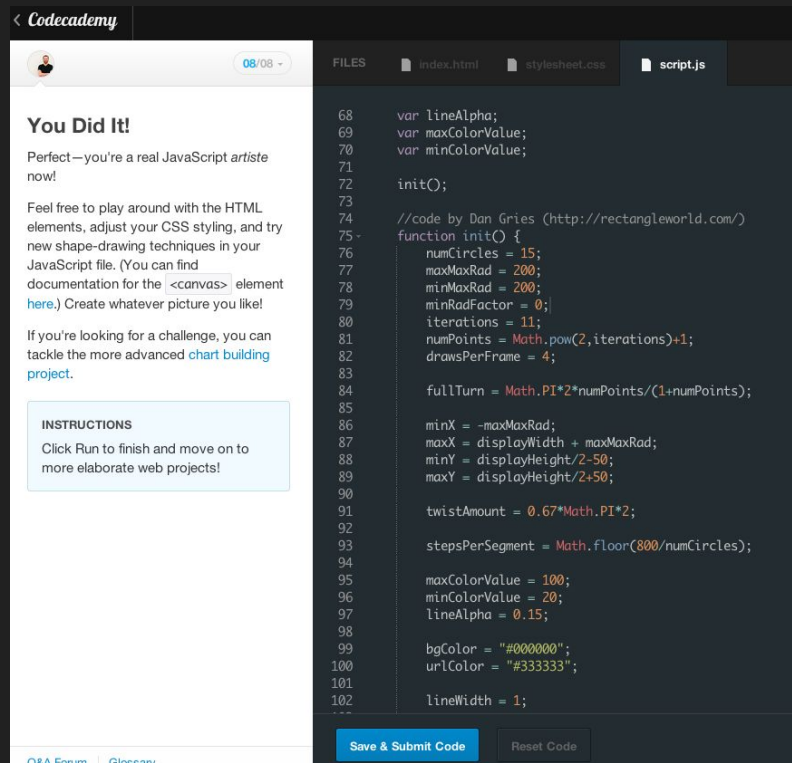- Create automatic grading system

Classroom

Classroom

Projects for the Future

- Expand automatic grading system to other subjects: Math, Biology…
- Design better ways to integrate analytic system into course materials
  - Online IDE

Acknowledgements