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Programming course

- Programming is **challenging**

- Need to learn the **Theory** before being able to write program

- Covering Theory in class takes **time**, leading to lack of time for **problem solving**

Watch-Think-Write-Share Strategy

Watch videos posted online

Think about questions on the videos

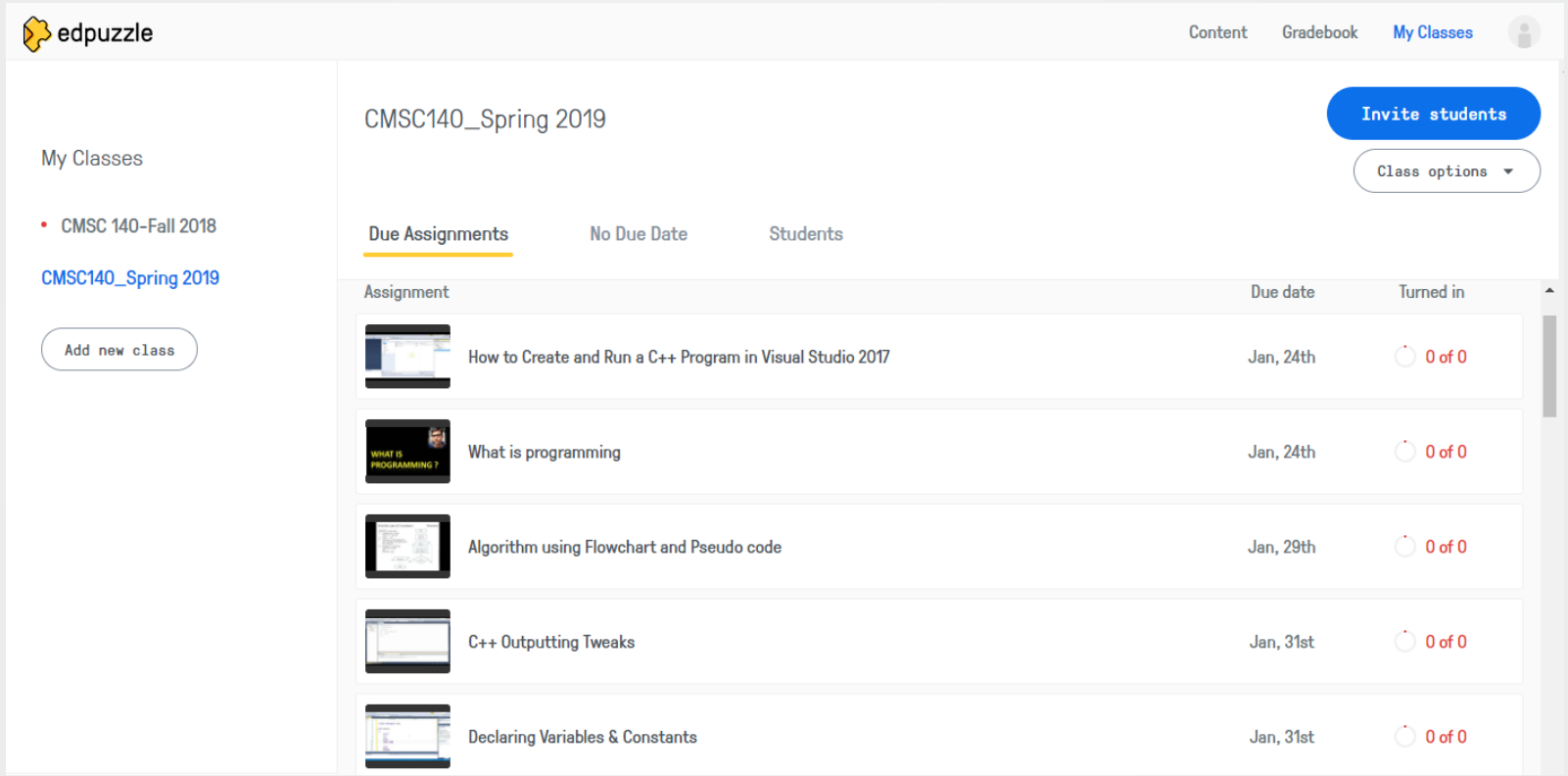
Write key points and create ONE question

Before Class

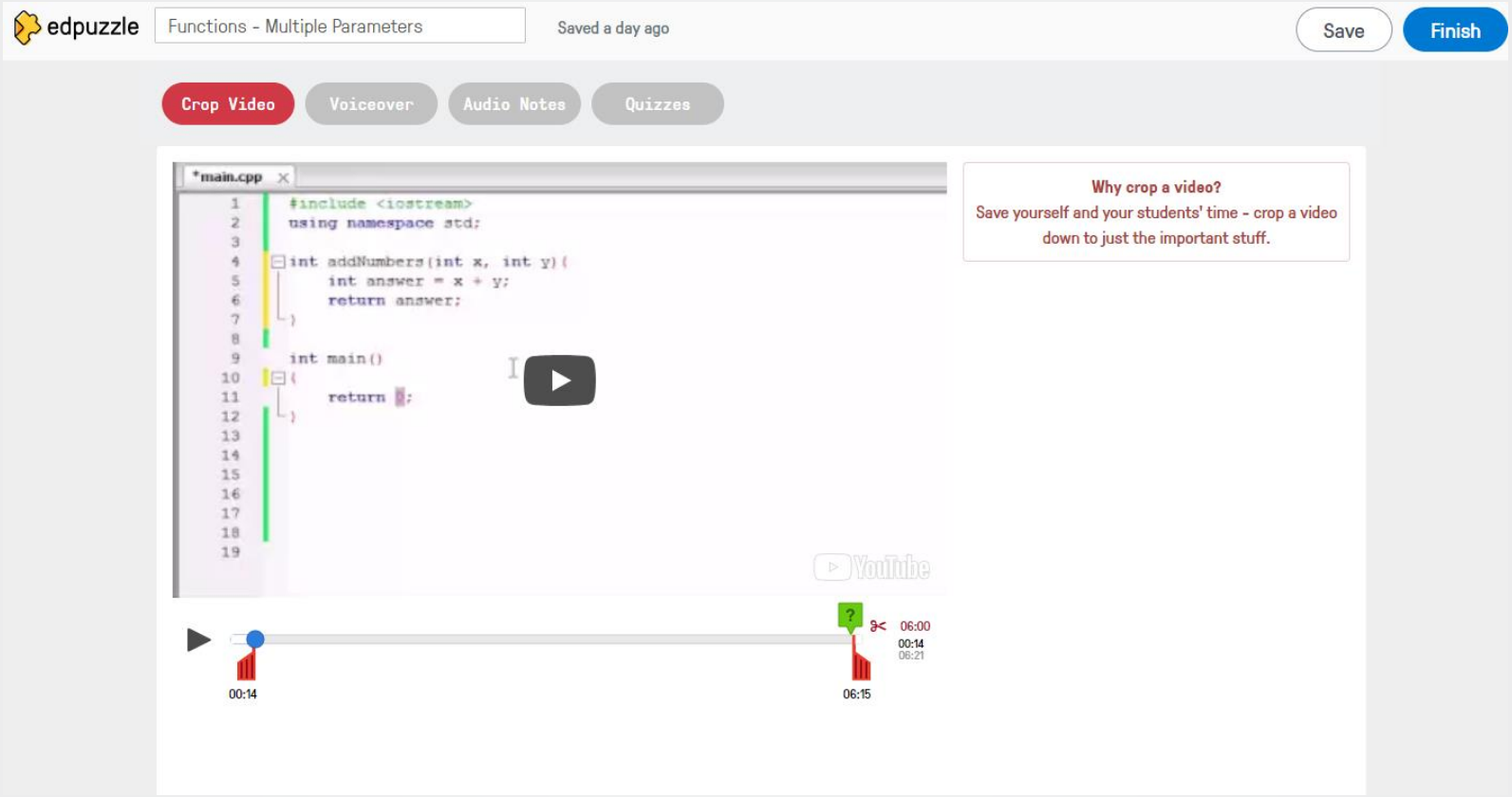
Share in class key points and ONE question

During Class

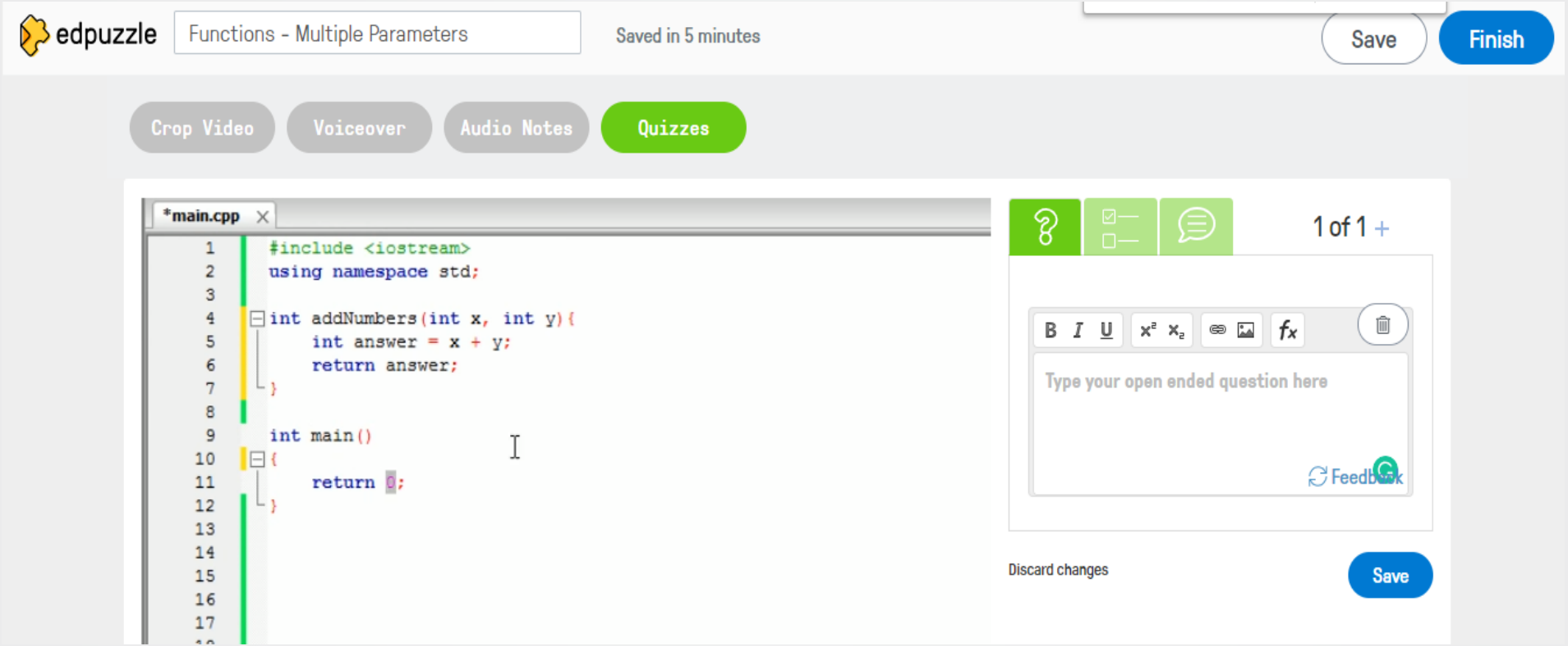
Watch Videos Posted on edPuzzle



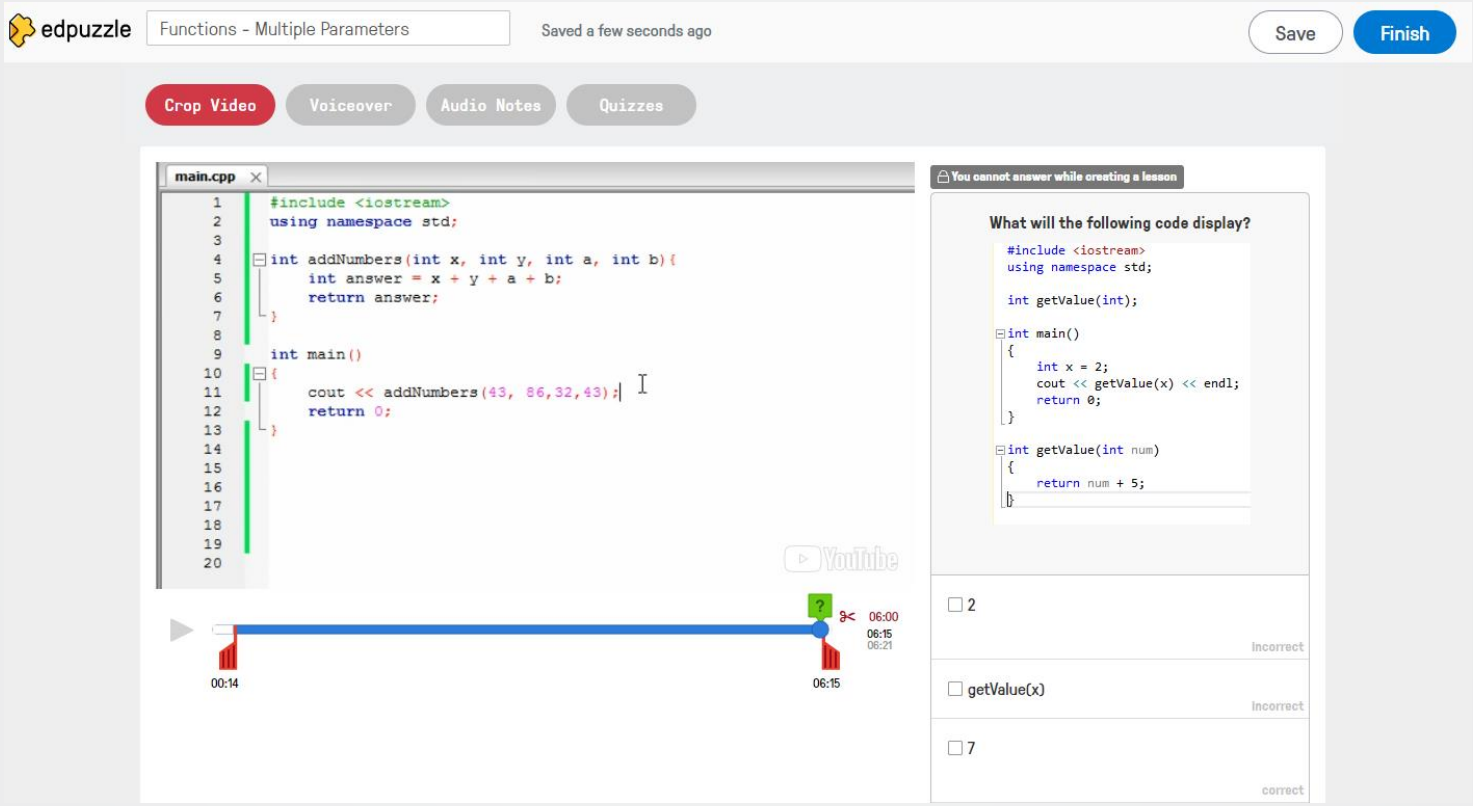
Crop Video, Add Audio, Add quizzes



Add Different types of Questions



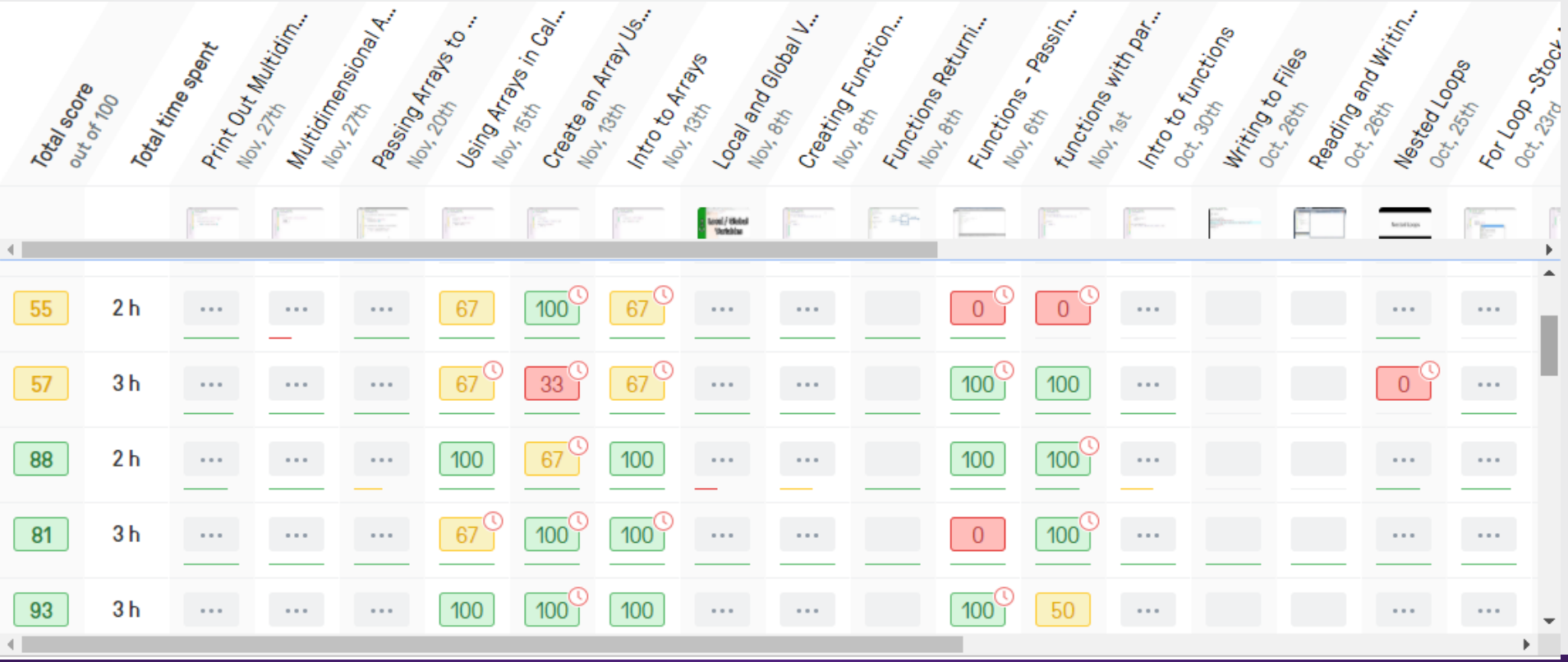
Add Different types of Questions



Students Progress

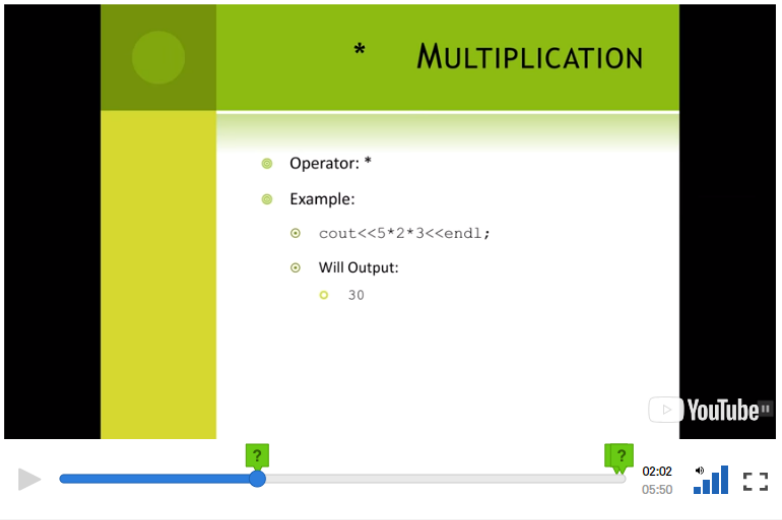
0/100	Sep, 3rd	On time	···
0/100	Aug, 29th	Not turned in	···
0/100	Sep, 6th	Not turned in	···
0/100	Never	Not turned in	···
90/100	Sep, 17th	Not turned in	···
90/100	Aug, 29th	On time	···
90/100	Aug, 30th	On time	···
99/100	Aug, 28th	On time	···
99/100	Aug, 28th	On time	···
100/100	Aug, 30th	Not turned in	···
100/100	Sep, 6th	On time	···
100/100	Aug, 30th	On time	···

Gradebook


Total score
out of 100
Total time spent
Print Out Multidim...
Nov, 27th
Multidimensional A...
Nov, 27th
Passing Arrays to ...
Nov, 20th
Using Arrays in Cal...
Nov, 15th
Create an Array Us...
Nov, 13th
Intro to Arrays
Nov, 13th
Local and Global V...
Nov, 8th
Creating Function...
Nov, 8th
Functions Returni...
Nov, 8th
Functions - Passin...
Nov, 6th
functions with par...
Nov, 1st
Intro to functions
Oct, 30th
Writing to Files
Oct, 26th
Reading and Writin...
Oct, 26th
Nested Loops
Oct, 25th
For Loop - Stock
Oct, 23rd
55 2 h 67 100 67 0 0
57 3 h 67 33 67 100 100 0
88 2 h 100 67 100 100 100
81 3 h 67 100 100 0 100
93 3 h 100 100 100 100 50

Think about Questions on the Videos

Math Operators in C++



The dimensions (width and length) of room1 have been read into two variables: width1 and length1. The dimensions of room2 have been read into two other variables: width2 and length2. Write a single expression whose value is the total area of the two rooms.

Submit Skip Rewatch

Write Key Points and Create ONE Question

Students upload **Questions** and the **Answer** on blackboard

Share in Class Key Points and ONE Question

Typical Class Activities

- Short 5 min Quiz
- Worksheet
  - Short Answer Questions
  - Programming Questions

Students' Survey

Watched Videos on Time	Confident to answer Questions on the Video	Effectiveness of Videos in class discussions?
90%	75%	80%

Students' Survey

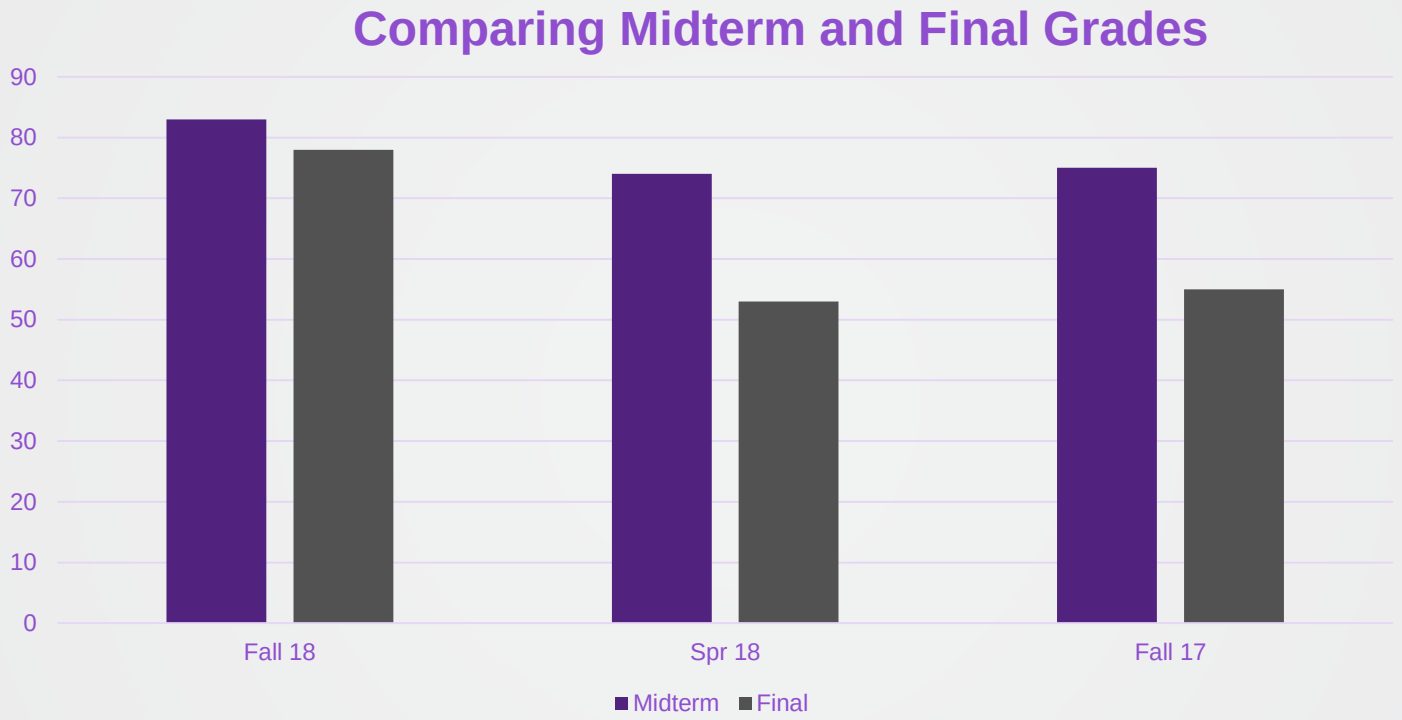
- I think that we should be given the answers to the programming questions videos, that would help students understand their mistakes.
- if they were shorter and more of them
- The questions were difficult to understand and you only had one try for them.
- They shouldn't be grades because if the students don't understand the material it is helpful if the teacher still spends time instructing

Comparing **Midterm Exam** Results

Class	# of Students	Average Grade	Max	Min
Fall 2018	25	**83**	96	55
Spring 2018	22	**74**	97	46
Fall 2017	25	**75**	96	31

Comparing the **Final Exam** results

Class	# of Students	Average Grade	Max	Min
Fall 2018	24	**78**	93	35
Spring 2018	22	**53**	92	15
Fall 2017	25	**55**	96	31


Comparing Midterm and Final Grades
90
80
70
60
50
40
30
20
10
0
Fall 18
Spr 18
Fall 17
Midterm
Final