CSE 11
Accelerated Intro to Programming
Discussion Section 3

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↳ help hours

↳ 75%

This discussion is being recorded

Lecture recap

- Classes
  - Combine simple pieces of data together into more complicated structures
  - For example, two integers can be used to represent a point in 2D space
- Constructors
  - It does not make sense to have a fixed x and y in the point class
  - We use constructors to create objects in the class
- Objects Use "new" to create objects
  - Instances of the class
  - In many cases there are infinitely many objects
    - For example, the number of points is infinite

(1, 2)
(4, 5)
(10, 7)

```
class Point {
    int x;
    int y;
    Point(int x, int y) {
      this.x = x;
      this.y = y;
    }
    Point add(Point other) {
      return new Point(this.x + other.x, this.y + other.y);
    }
}
```

fields

-> constructor

second

-> class method

second

second

create a new Point

return it

Lecture recap

- int 1, 2, -1, 5, ----
- boolean true / false
- String "1", "true", "CSE11"
- double
  - Floating point number 1.0, 55.6
  - Use with caution
    - double value1 = 1/2; -> 0.0
    - double value2 = 1.0/2; -> 0.5
    - double value3 = 1/2.0; -> 0.5
    - double value4 = 1.0/2.0; -> 0.5
  - Not precise (0.1 + 0.2) + 0.3 ≠ 0.1 + (0.2 + 0.3)

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Lecture recap

- Math library
  - https://docs.oracle.com/en/java/javase/15/docs/api/java.base/java/lang/Math.html
  - Lots of useful methods:
    - max/min
    - abs
    - pow
    - sqrt
    - log
    - ...

Math.abs(-1)

Math.log(2)
↓
in base e

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- Due Thursday at 11:59pm PST
- Lots of stuff going on. Seek help if necessary
- Start early!

Thanks!