

CSE 206 – Week 1

Practice Problems

Problem 1

Given an integer n , find the value of
 $1 + 2 + 3 + \dots + n$

Solve the problem using Object Oriented Paradigm

Problem 1b

Given an integer n , find the value of

i) $1 + 2 + 3 + \dots + n$

ii) $1^2 + 2^2 + 3^2 + \dots + n^2$

iii) $1^3 + 2^3 + 3^3 + \dots + n^3$

Solve the problem using Object Oriented Paradigm

Problem 2

A library has some books on Data Structure and some books on Algorithms.

- Books can be issued (taken from library)
- Books can be returned (to the library)

Solve the problem using Object Oriented Paradigm

Problem 2b

A library has some books on Data Structure and some books on Algorithms.

- Books can be issued (taken from library)
- Books can be returned (to the library)
- If book-count falls below 2, a warning is shown
- If book-count is zero, it cannot be issued from

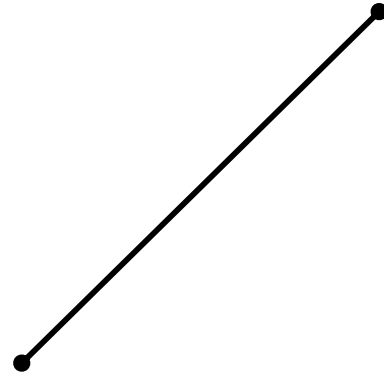
Solve the problem using Object Oriented Paradigm

Problem 3

A line consists of two points.

The length is given by:

$$\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$



Solve the problem using Object Oriented Paradigm

Problem 3b

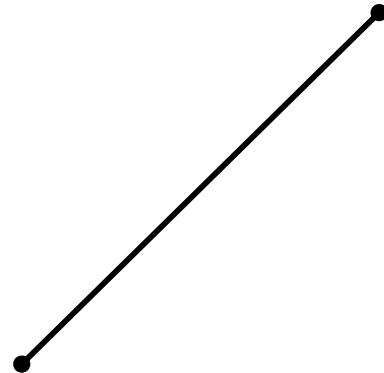
A line consists of two points.

The length is given by:

$$\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

The mid-point is given by:

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$



Solve the problem using Object Oriented Paradigm

Problem 4

An undergraduate course has 70 classes (14wk x 5d). A student can be present, or absent in any of the days. Devise a way to keep track of the attendance of a student.

- The student can be marked present or absent on day n
- The total number of present/absent has to be calculated

Solve the problem using Object Oriented Paradigm

Problem 4b

An undergraduate course has 70 classes (14wk x 5d). A student can be present, or absent in any of the days. Devise a way to keep track of the attendance of a student.

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- Check if the student is dis-collegiate ($< 90\%$)
- Check if the student is non-collegiate
($< 90\% \ \& \ \geq 75\%$)

Solve the problem using Object Oriented Paradigm