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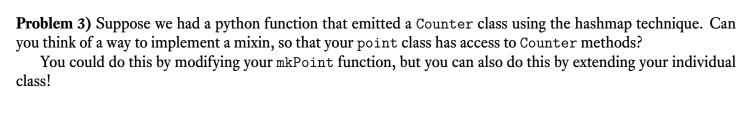
CS 421 — Objects Activity Mattox Beckman

Implementing Objects

Problem 1) Try implementing the point class in Python using Hash maps (associative array) to store the methods and the local variables. Include getx, gety, move, and report.

Problem 2) Now try writing fastPoint, where moves go twice as quickly. But this time take advantage of the fact that you have a hash table!

Implementing Mixins



Covariance and Contravariance

Problem 4) Suppose you have a function $f :: a \rightarrow b$, and you would like to use function composition to modify it so that you have a function $f' :: a \rightarrow c$. What would this modifying function look like? Give a realistic example of when you might want this.

Problem 5) Suppose you have a function $f: a \rightarrow Bool$, and you would like to use function composition to modify it so that you have a function $f': c \rightarrow Bool$. What would this modifying function look like? Give a realistic example of when you might want this.