CS21: INTRODUCTION TO COMPUTER SCIENCE

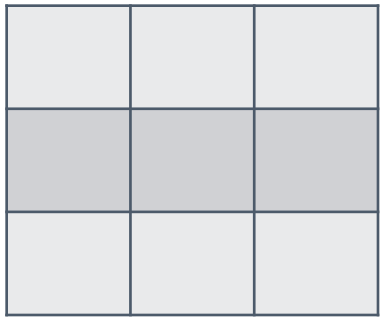
Prof. Mathieson

Fall 2017

Swarthmore College

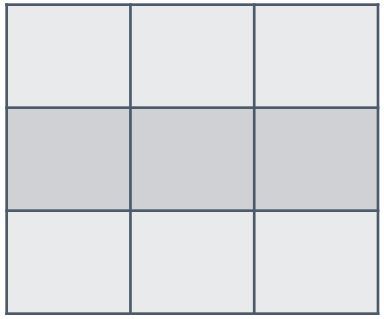
3square puzzle examples

From: Matt



- corn often found on this
- type of poem
- a gamble

From: Adi



- You play baseball with this
- Also Known As
- The Indian Wonder of the World

3square puzzle examples

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C	O	B
O	D	E
B	E	T

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B	A	T
A	K	A
T	A	J

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Informal quiz (discuss with a partner)

1) What is this class for? How many *instance variables* are there? How many *methods*?
2) Complete the **getValue(..)** method.
3) Complete the **roll(..)** method.
4) What is wrong with the **__str__(..)** method?
5) Does a *constructor* return something? Why or why not?

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class Die:

    def __init__(self, num_sides):
        self.sides = num_sides
        self.value = 1 # default starting value

    def roll(self):


    def getValue(self):


    def __str__(self):
        print("%d-sided die, current value: %d" % (self.sides, self.value))
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        self.value = random.randrange(1, self.sides+1)
    def getValue(self):
        return self.value
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The constructor does create an object which we can assign to a variable name, but we do not use "return ____".

Outline Nov 22:

- Go over Quiz 4
- Continue: writing classes
- Finish: Student class example
- Start: RandomGene class

Notes

•Lab 9 due Monday after Thanksgiving
•There is lab this week! (Tues/Wed)
•**Next ninja session**: Sunday after Thanksgiving

Classes

Today

- Class writer vs. class user (example: graphics.py)
- Finish student example
- Start biology example

RandomGene class (TDD)

chromosome

" 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 "

GTACCGATCGGCCTA

gene: 4 – 10 } constructor

start end } baseIst

query pos: 7 inside? yes!

base: T

query pos: 13 inside? no!

instance variables

* start (int)
* end (int)
* sequence (str)

methods

* checkInside(pos)
  ↳ return boolean
* base(pos)
  → return str