APCSA Toy Night

Sunday, June 5th 6:45-9pm

Lightning Talk Presentation
AP Reading

HELLO

My name is

Art Simon

Lowell High School, San Francisco

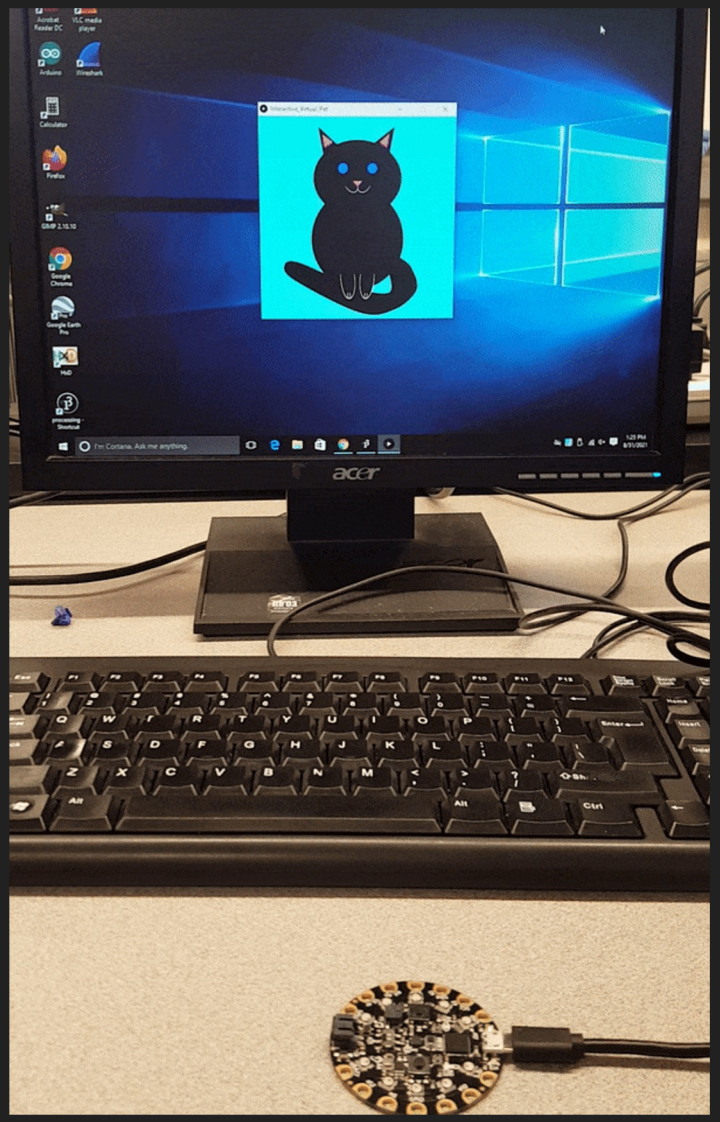
Ask Me About

Processing and Arduinos for AP CS A

Up next: Dennis Bouvier

What is it?

- Processing is a beginner friendly programming environment that is 100% consistent with the AP Subset of Java
- It has lots of easy to use and slick looking graphics capabilities
- And there are many libraries including one for Arduinos like this Adafruit Circuit Playground (currently on sale for $17.50)
- This assignment asked students to create a virtual pet and use the Circuit Playground light sensor to interact with it



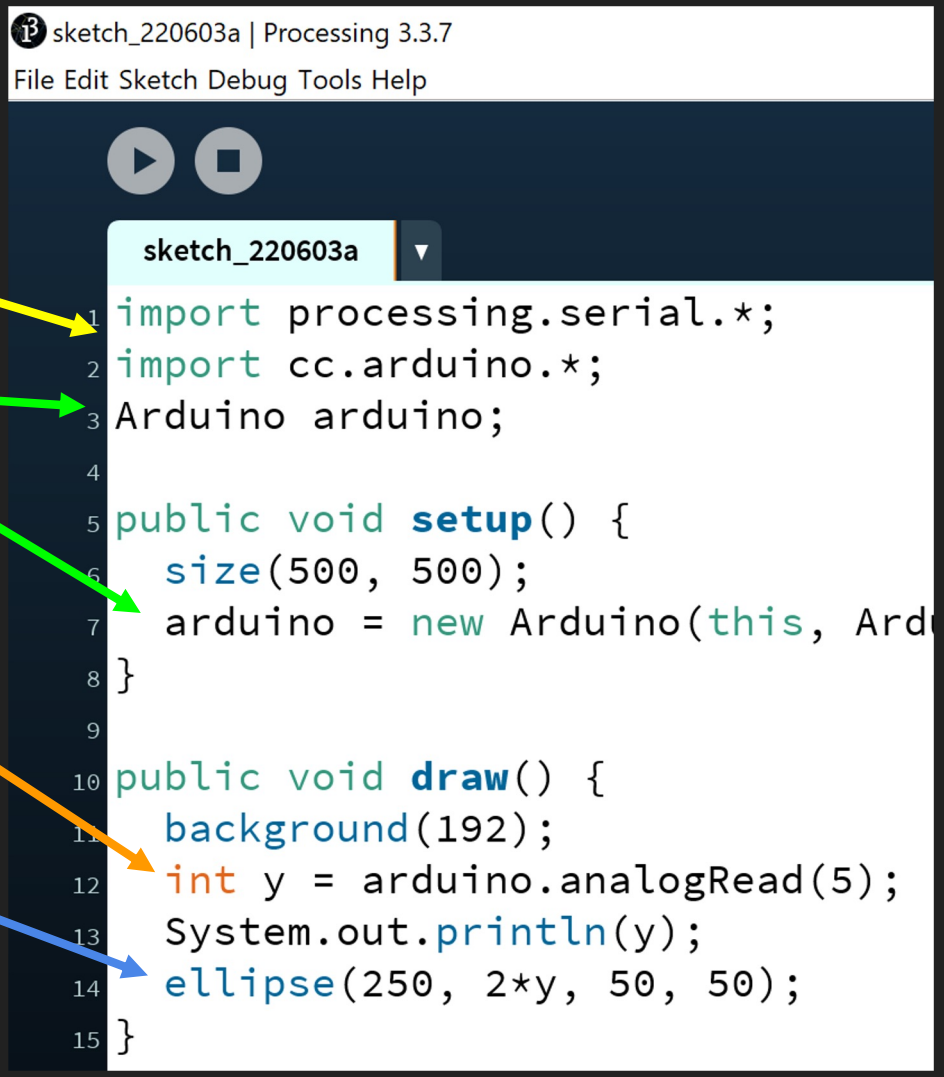
A Basic Program

`import` statements

Declare and initialize the Arduino

Get input from the light sensor (0 - 255)

Use that reading to change the position of an ellipse

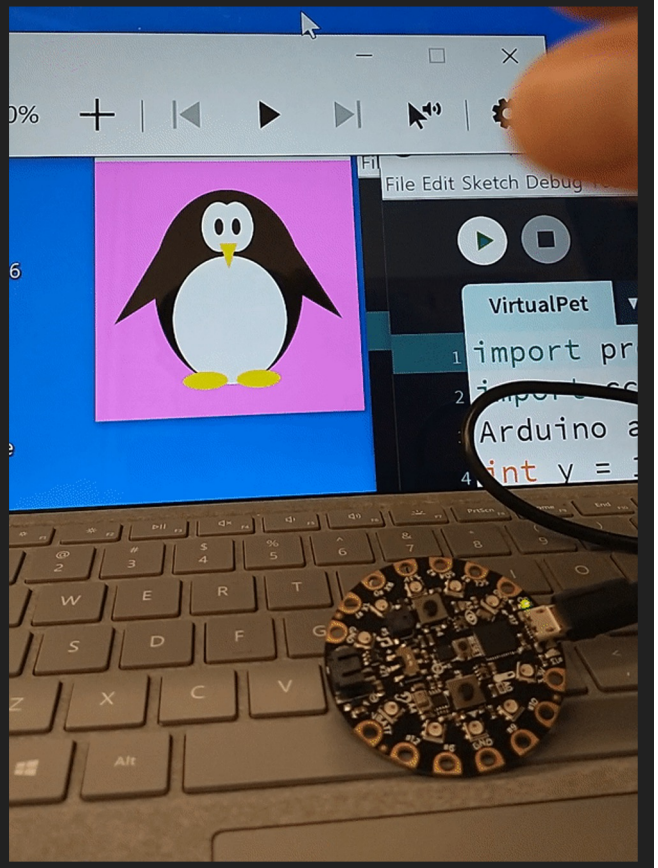


A Fancier Program

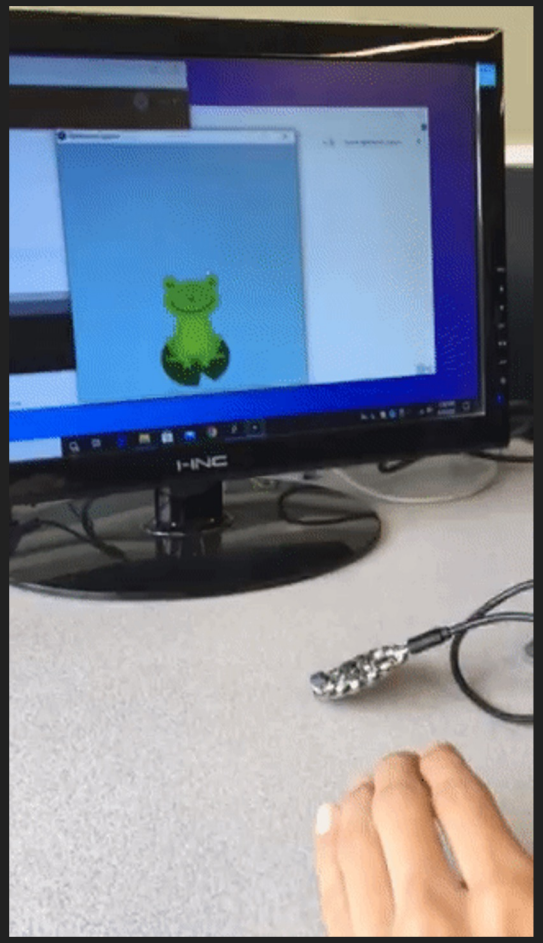
Get input from the light sensor and constrain it between 50 and 200

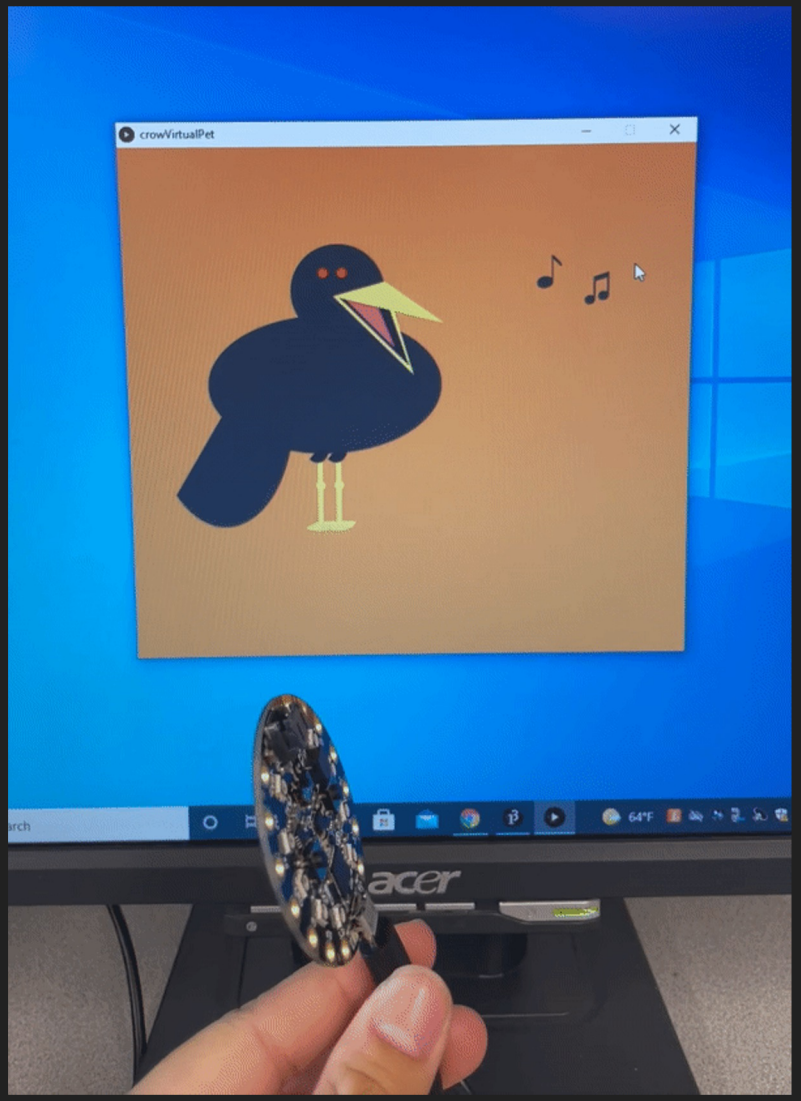
Use that reading to change the position of the wing tips

```
1  import processing.serial.*;
2  import cc.arduino.*;
3  Arduino arduino;
4  int y = 184;
5  public void setup() {
6    size(300,300);
7    arduino = new Arduino(this, Arduino.list()[0]
8  }
9  public void draw() {
10
11   int value = arduino.analogRead(5);
12   if(value > 50 && value < 200){
13     y = value;
14   }
15   System.out.println(y);
16   background(255, 0, 255);
17   noStroke();
18   //body
19   fill(0, 0, 0);
20   ellipse(150, 150, 170, 230);
21   fill(255, 255, 255);
22   ellipse(150, 190, 130, 150);
23   //eyes
24   fill(255, 255, 255);
25   ellipse(140, 80, 40, 60);
26   ellipse(160, 80, 40, 60);
27   //eyeballs
28   fill(0, 0, 0);
29   ellipse(140, 80, 10, 20);
30   ellipse(160, 80, 10, 20);
31   //beak
32   fill(255, 255, 0);
33   triangle(140, 100, 160, 100, 150, 130);
34   //feet
35   ellipse(120, 260, 50, 20);
36   ellipse(180, 260, 50, 20);
37   //wings
38   fill(0, 0, 0);
39   bezier(205, 65, 180, 130, 180, 130, 280, y);
40   bezier(95, 65, 120, 130, 120, 130, 20, y);
41 }
```



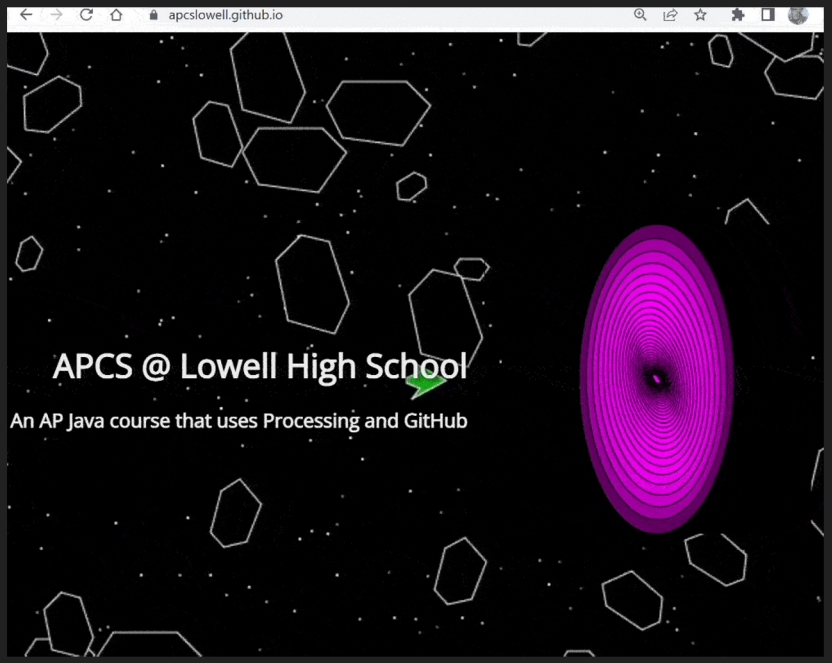
More Samples of Student Work

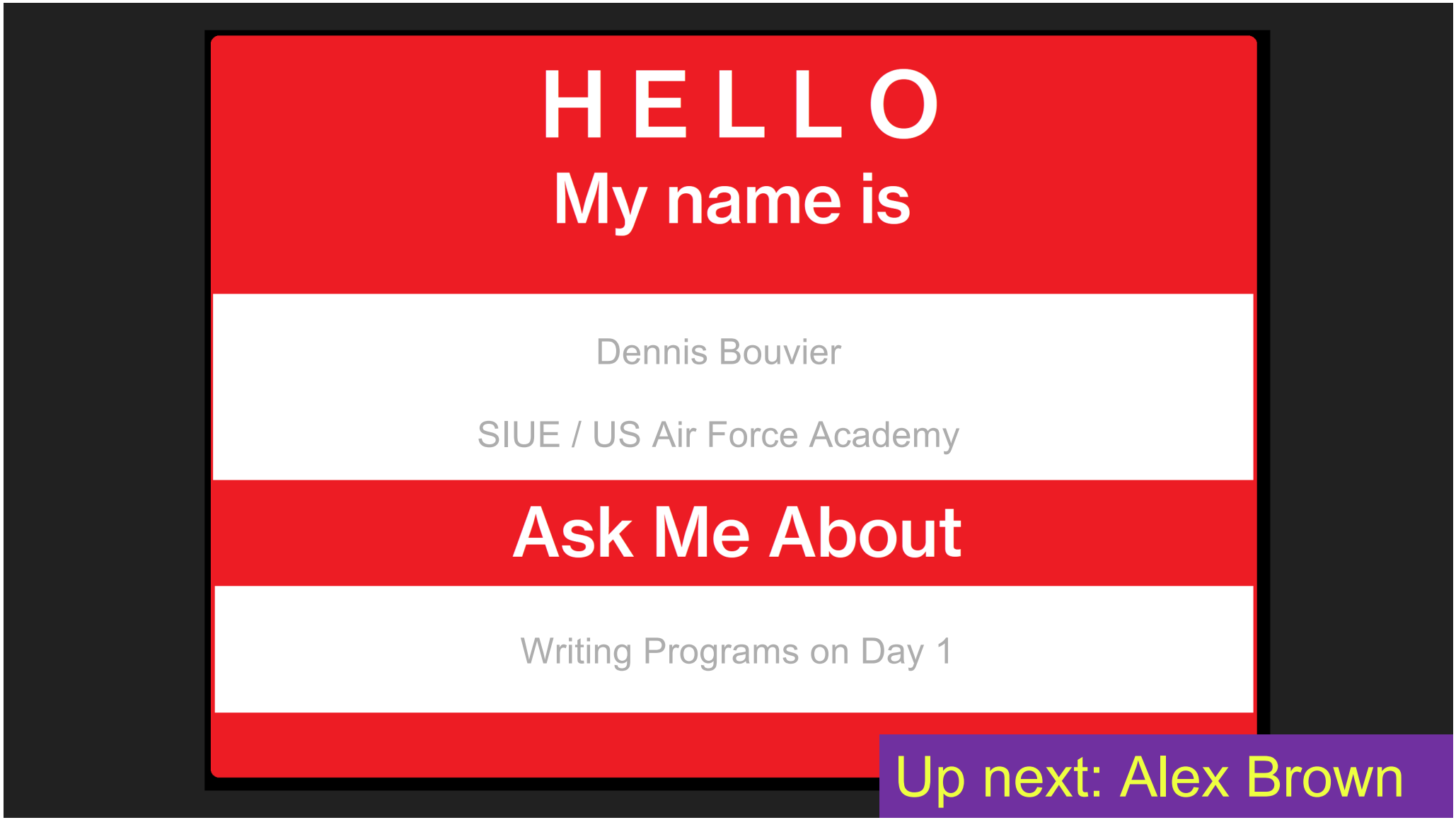




Links

- My website apcslowell.github.io/
- My email simart@gmail.com
- Virtual Pet Assignment
  https://github.com/APCSLowell/VirtualPet/blob/gh-pages/README.md#virtual-pet
- Light Controller Assignment
  https://github.com/APCSLowell/LightSensorController#readme
- Processing https://processing.org/
- Adafruit Circuit Playground
  https://www.adafruit.com/product/3000
- Ezgif was used by students to convert their phone videos to animated gifs
  https://ezgif.com/
- ScreenToGif was used for other animated gifs https://www.screentogif.com/




HELLO
My name is
Dennis Bouvier
SIUE / US Air Force Academy
Ask Me About
Writing Programs on Day 1
Up next: Alex Brown

Writing Programs on Day 1

How to do it: Preparation

Explain:

- The class is about problem solving
- Programing is the last step … the expression of a solution to a problem
- Programming language is very precise because all intelligence is in your head (not in the computer)
- The computer is a ruthless interpreter of what you wrote,
  not what you think

Dennis djb@acm.org

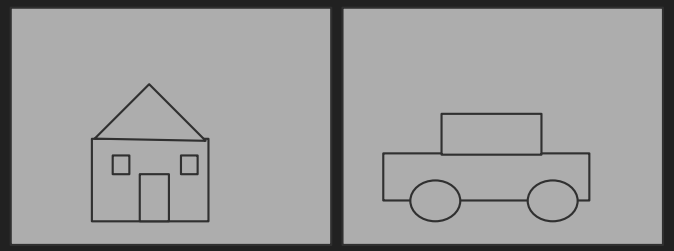
Writing Programs on Day 1

How to do it: Activity

1. Each student has 2 sheets of paper
2. Give each student a “programming task”
3. Exchange “programs” with neighbors to have them play computer
4. Compare actual results to expected results

Dennis djb@acm.org

Writing Programs on Day 1



How to do it: **Activity**

1. Each student has 2 sheets of paper
2. Give each student a “programming task”

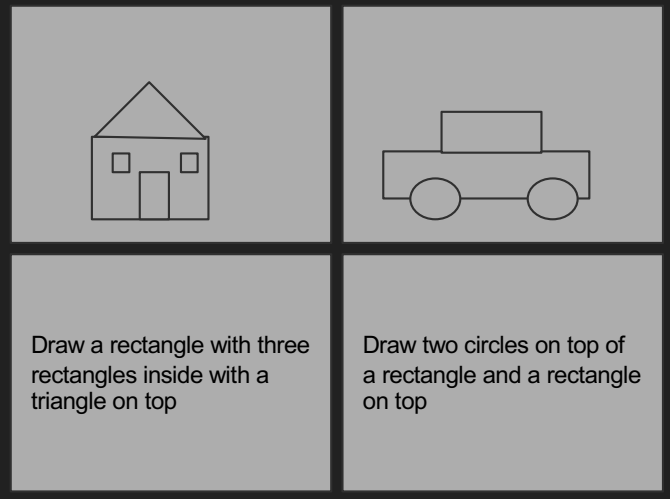
   Example 1: draw a simple scene
   - Students draw a **simple** picture (line drawing) using only squares, triangles, and circles
   - Students write the instructions for recreating the image

1. Exchange “programs” with neighbors to have them play computer
2. Compare actual results to expected results

Dennis djb@acm.org

Writing Programs on Day 1

How to do it: **Activity**



1. Each student has 2 sheets of paper
2. Give each student a “programming task”

   Example 1: draw a simple scene
   - Students draw a **simple** picture (line drawing) using only squares, triangles, and circles
   - Students write the instructions for recreating the image

1. Exchange “programs” with neighbors to have them play computer
2. Compare actual results to expected results

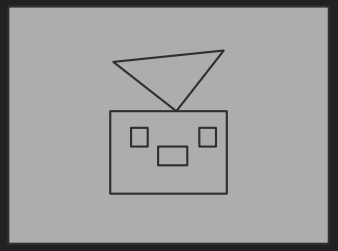
Dennis djb@acm.org

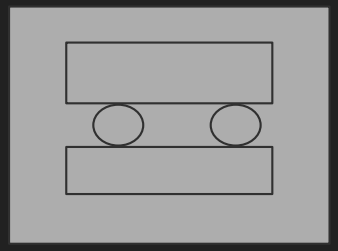
Writing Programs on Day 1

How to do it: **Activity**

Draw a rectangle with three rectangles inside with a triangle on top	Draw two circles on top of a rectangle and a rectangle on top

1. Each student has 2 sheets of paper
2. Give each student a “programming task”
3. Exchange “programs” with neighbors to have them play computer
    - Remind them that the computer has no intelligence and while playing computer they
        i. Can not ask for clarification
        ii. Should do exactly as instructed
        iii. If the instruction is not clear, make a guess and proceed
4. Compare actual results to expected results





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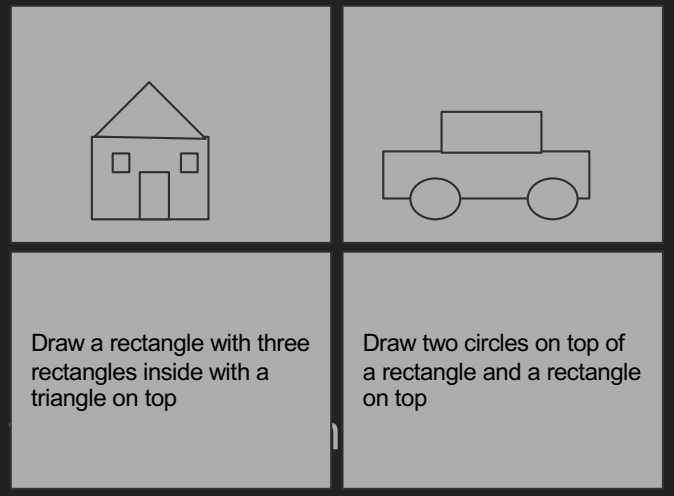
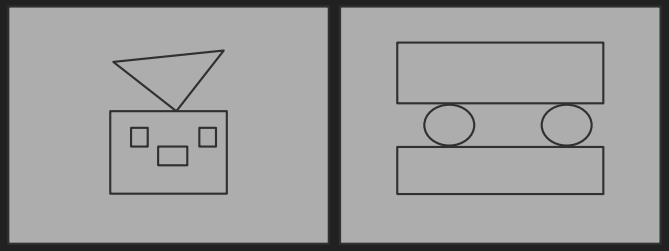
Writing Programs on Day 1

How to do it: **Activity**

1. Each student has 2 sheets of paper
2. Give each student a “programming task”
3. Exchange “programs” with neighbors to have
4. Compare actual results to expected results





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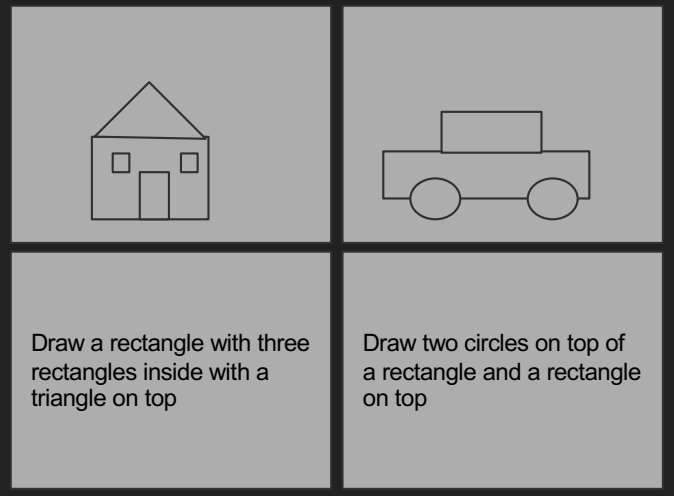
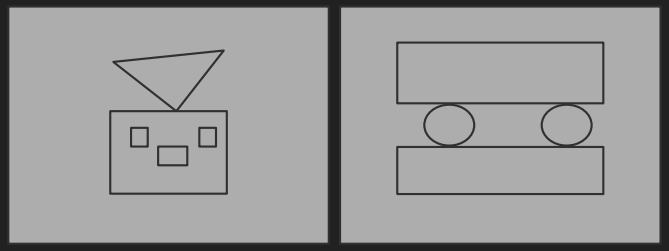
Writing Programs on Day 1

What to expect:

1. Fun (i.e., noise, …)
2. 90% failure to produce same image
3. Spontaneous discussion





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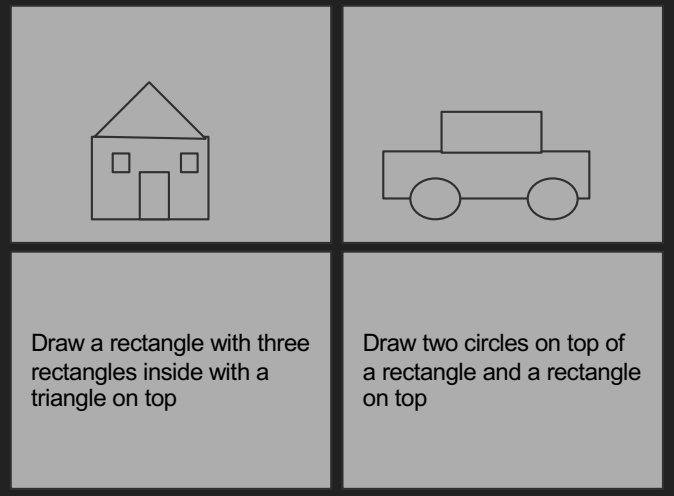
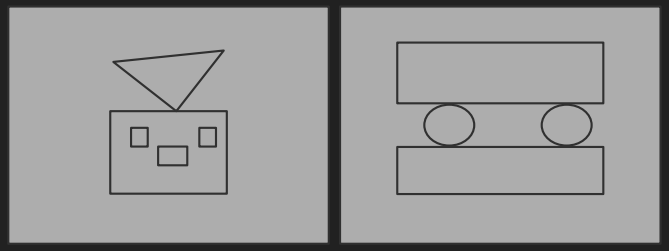
Writing Programs on Day 1

How to do it: **Post-Activity Discussion**

1. Natural Languages are imprecise; Programming Languages are designed to be unambiguous
2. Writing broken programs is common
3. …
4. …





Dennis djb@acm.org

Writing Programs on Day 1

How to do it: Activity

1. Each student has 2 sheets of paper
2. Give each student a “programming task”

   Example 2: write the instructions for making a paper airplane
   - Not everyone may know how to do this
   - Paper airplanes may land in random places

1. Exchange “programs” with neighbors to have them play computer
2. Compare actual results to expected results

Dennis djb@acm.org

Writing Programs on Day 1

A. **Prepare**

B. **Activity**

1. Each student has 2 sheets of paper
2. Give each student a “programming task”
   - Example 1: draw a simple scene
   - Example 2: write the instructions for making a paper airplane
1. Exchange “programs” with neighbors to have them play computer
2. Compare actual results to expected results

C. **Discuss**

Dennis djb@acm.org

HELLO

My name is

Alexander (Alex) Brown

Our Lady of Mercy Catholic High School

Ask Me About

InputAgnostic - Starting Students on not always using Print

Up next: Sandy Czjaka

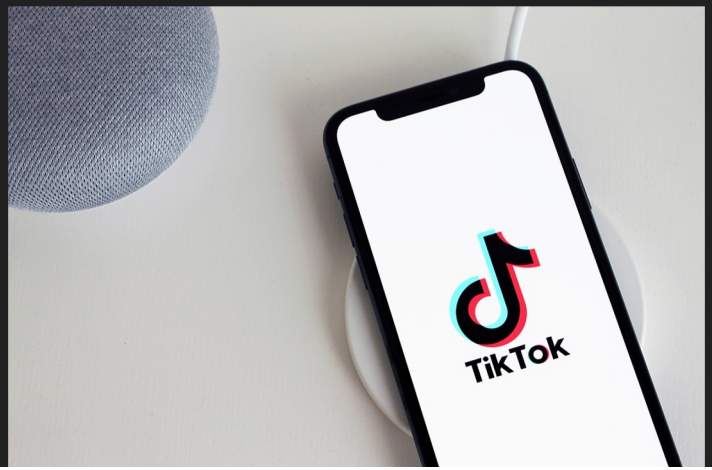
AP-CSP

Language Agnostic

Language-agnostic programming or scripting (also called **language-neutral**, **language-independent**, or **cross-language**) is a software development paradigm where a particular language is chosen because of its appropriateness for a particular task (taking into consideration all factors, including ecosystem, developer skill-sets, performance, etc.), and not purely because of the skill-set available within a development team.

Source: https://en.wikipedia.org/wiki/Language-agnostic

Do languages exist?


TikTok

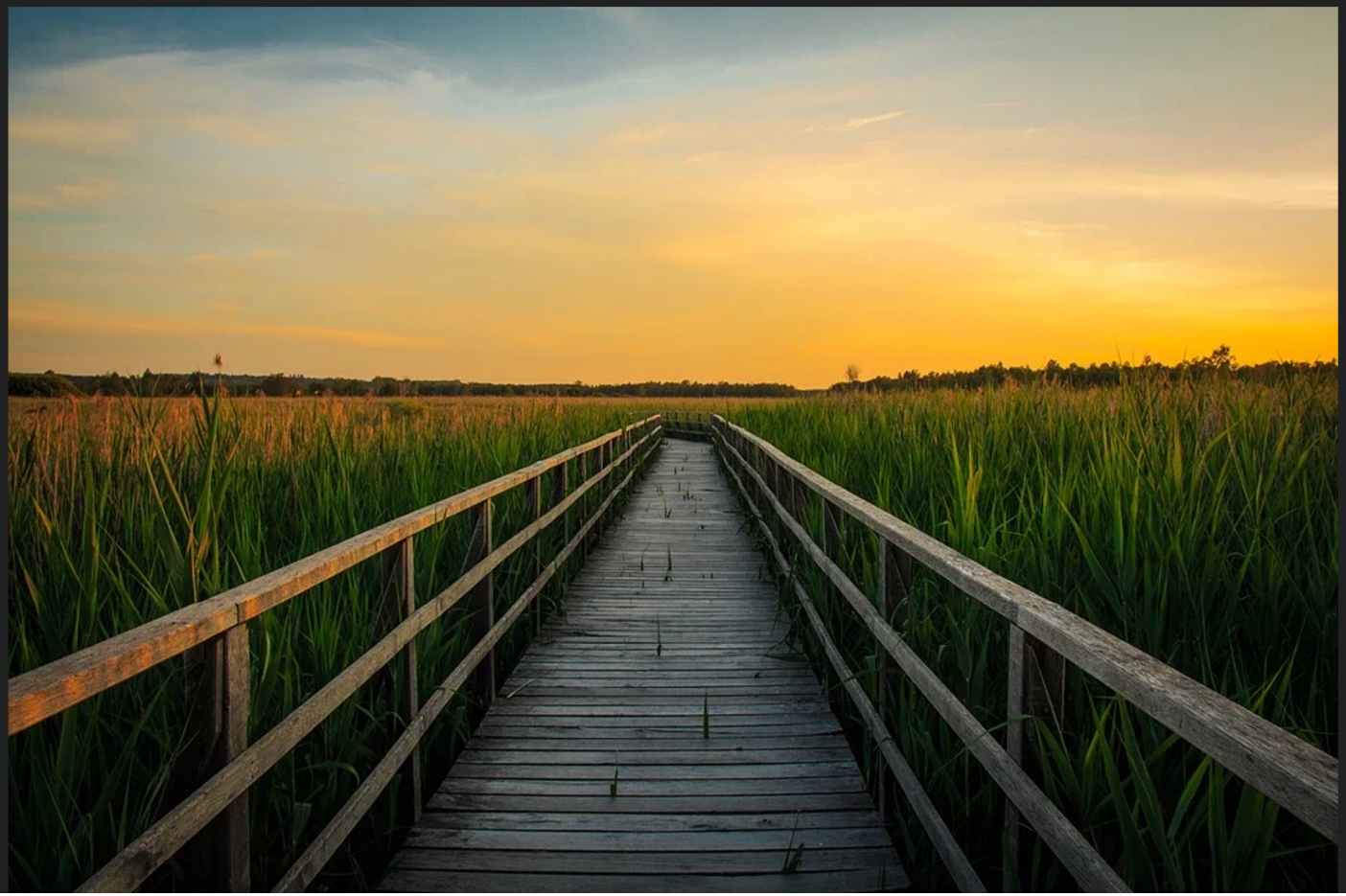

Such wow

Do languages exist?

Maybe.

Truth

Goodness



Talks at Google

Religion and the Opening Up of the Mind

Bishop Robert Barron

Input Agnostic aka Input Ambivalent

We don’t care

/ or rather we don’t know /

where the input is coming from

Standard IO

```
import java.util.Scanner;
public class HelloNameRunner
{

   public static void main(String[] args)
   {
      Scanner ui = new Scanner(System.in);

      System.out.println("Hello! What's your name?");
      String name = ui.next();
      System.out.println("Hello " + name);
```

```
    System.out.println("Hello! What's your name?");
    String name3 = ui.next();
    String response3 = HelloNameRunner.getHelloName(name3);
    System.out.println(response3);

}

private static String getHelloName(String n)
{
    return "Hello " + n + "!";
}
```

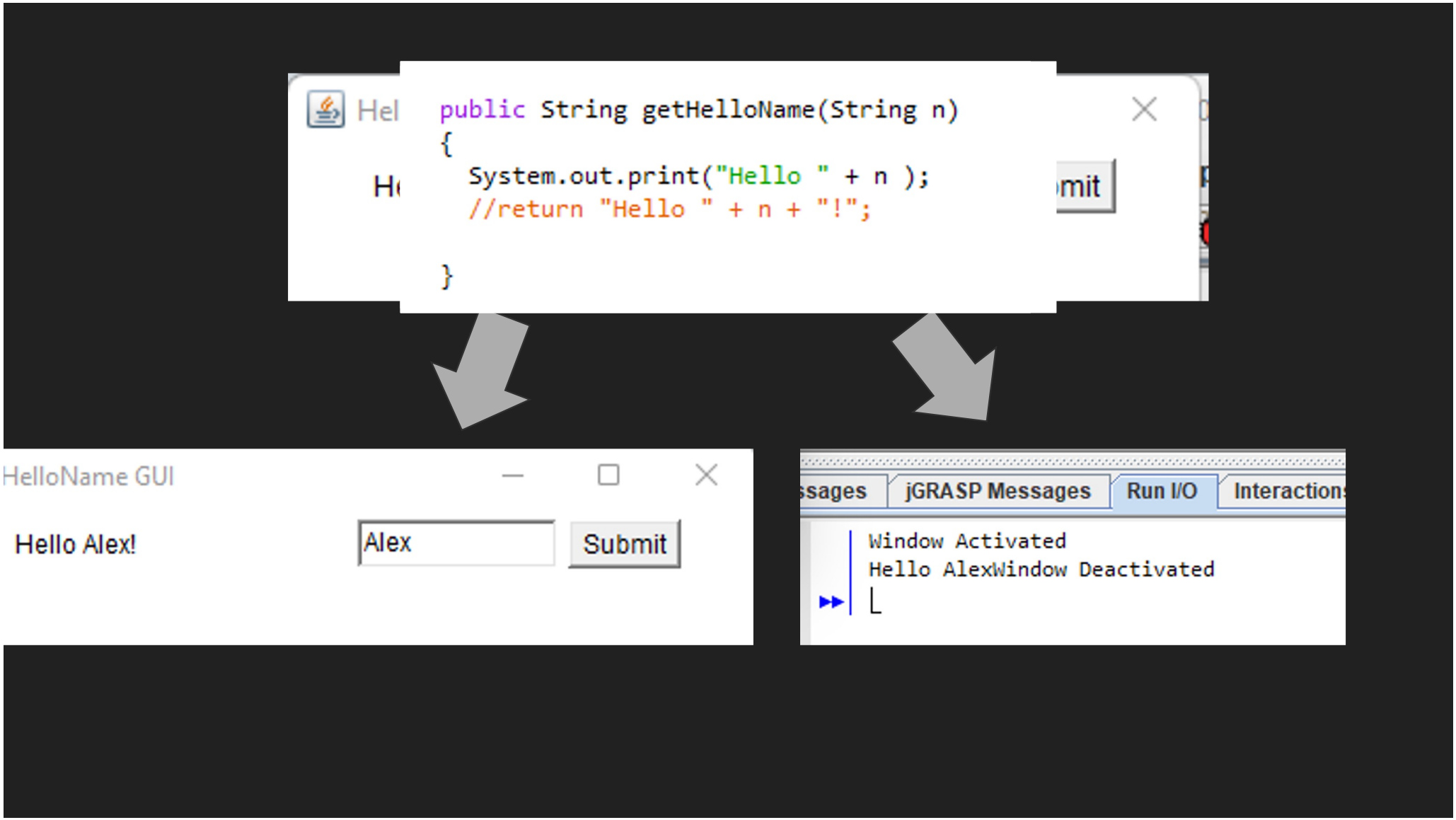
```java
public static void main(String[] args)
{
   Scanner ui = new Scanner(System.in);

   System.out.println("Hello! What's your name?");

   String name = ui.next();

   String response = HelloNameToolkit.getHelloName(name);

   System.out.println(response);

   }
```

```java
public class HelloNameToolkit
{

   public static String getHelloName(String n)
   {
      return "Hello " + n;
   }


}
```

GUI

```
import java.awt.*;        // Using AWT containers and components
//from https://www.ntu.edu.sg/home/ehchua/programming/java/J4a_GUI.html
import java.awt.event.*;

public cla
      impl
{
      // Tl
      // A                                                    ltiple inter
   private
   private
   private

   // Constructor to setup the GUI components and event handlers
   public HelloNameGUI() {
      setLayout(new FlowLayout()); // "super" Frame sets to FlowLayout

      lblResponse = new Label("Hello! What is your name?");
```

```
public String getHelloName(String n)
{
    System.out.print("Hello " + n );
   return "Hello " + n + "!";

}
```


public String getHelloName(String n)
{
System.out.print("Hello " + n);
//return "Hello " + n + "!";
}
HelloName GUI
Hello Alex!
Alex
Submit
jGRASP Messages
Run I/O
Window Activated
Hello AlexWindow Deactivated

Files


names - Notepad
File
Edit
View
Emma
Olivia
Ava
Isabella
Sophia
Charlotte
Mia
Amelia
Harper
Evelyn
Liam
Noah
William
James
Oliver
Benjamin
Elijah
Lucas
Mason
Logan


namesOutput - Notepad
File
Edit
View
Hello Emma!
Hello Olivia!
Hello Ava!
Hello Isabella!
Hello Sophia!
Hello Charlotte!
Hello Mia!
Hello Amelia!
Hello Harper!
Hello Evelyn!
Hello Liam!
Hello Noah!
Hello William!
Hello James!
Hello Oliver!
Hello Benjamin!
Hello Elijah!
Hello Lucas!
Hello Mason!
Hello Logan!

ArrayList work

```
public static String getHelloName(String n)
{
   return "Hello " + n + "!";

}

public static ArrayList<String> getAllNames() throws IOException
{
   ArrayList<String> allNames = new ArrayList<String>();
   File myReadingFile = new File("names.txt");
   Scanner input = new Scanner(myReadingFile);
   while(input.hasNext())
      allNames.add(input.nextLine());
   return allNames;
}
```

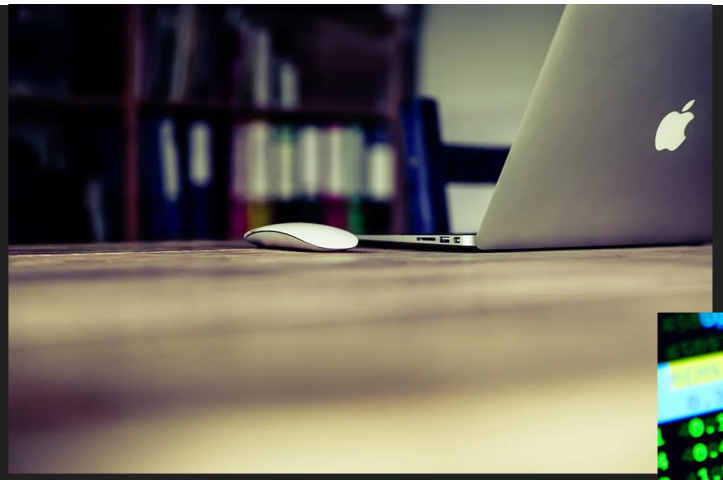
```java
public static void main(String[] args) throws FileNotFoundException, IOException
{
   FileWriter myOutputFile = new FileWriter("namesOutput.txt");
   ArrayList<String> namesList = HelloNameTextFile.getAllNames();

   for(String name : namesList)
   {
      String response = HelloNameTextFile.getHelloName(name);
      myOutputFile.write(response);
      myOutputFile.write("\n");
   }
   myOutputFile.close();
}
```

```java
public static String getHelloName(String n)
{
   return "Hello " + n + "!";

}
```

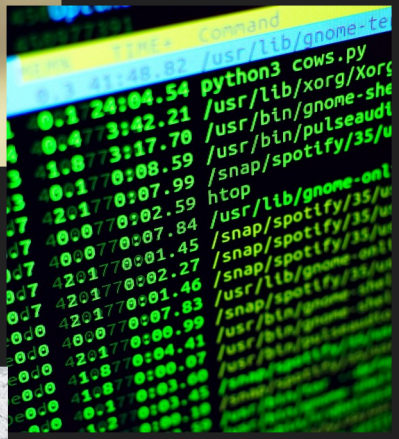
```java
public static ArrayList<String> getAllNames() throws IOException
{
   ArrayList<String> allNames = new ArrayList<String>();
   File myReadingFile = new File("names.txt");
   Scanner input = new Scanner(myReadingFile);
   while(input.hasNext())
      allNames.add(input.nextLine());
   return allNames;
}
```

Input Ambivalent

User-friendly



User-ambivalent



User-hostile

Alex Brown

abrowntechnology@protonmail.com

abrowntechnology.weebly.com

Sources

Cranium question mark: https://pixabay.com/vectors/cranium-head-human-people-persons-2028555/

Confused panda:
https://pixabay.com/vectors/panda-confused-questions-shrug-303949/

Sunrise space:
https://pixabay.com/photos/sunrise-space-outer-space-globe-1765027/

Sunset men:
https://pixabay.com/photos/sunset-men-silhouettes-helping-1807524/

Tiktok App:
https://pixabay.com/photos/tiktok-app-iphone-phone-5064078/

Doge picture:
https://getwallpapers.com/wallpaper/full/d/5/e/9803.jpg

Sunset:
https://pixabay.com/photos/sunset-federsee-bad-buchau-idyllic-2739472/

HELLO

My name is

Sandy Czajka

Riverside Brookfield High School

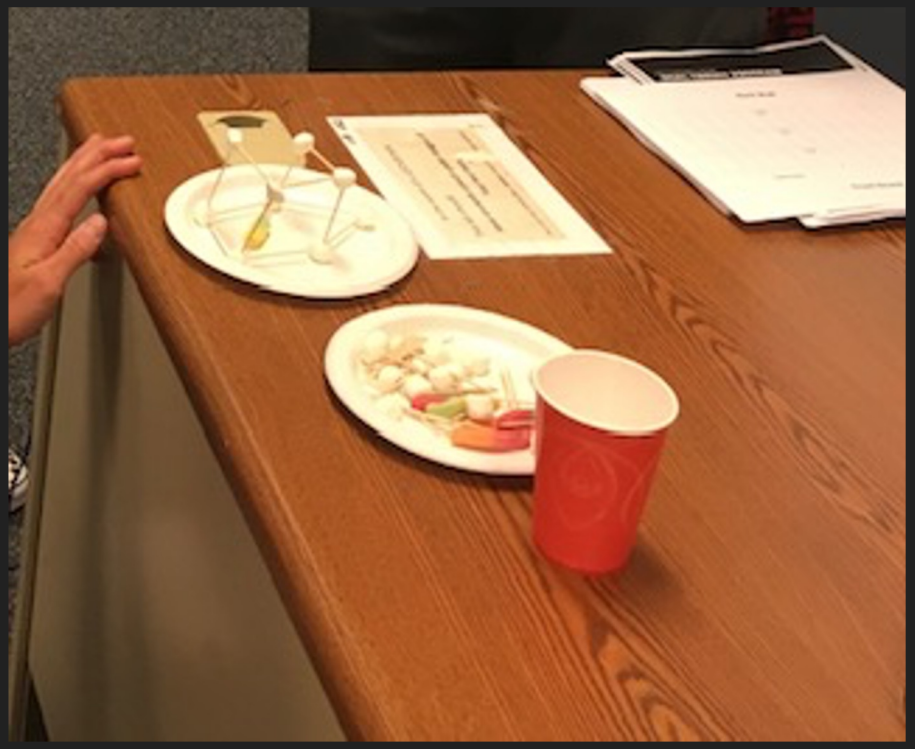
Ask Me About

Day "1" Activity

Up next: More Sandy

Day 1
Building a Candy House

bit.ly/candyHouse



Sandy Czajka
czajkas@rbhs208.net

HELLO

My name is

Sandy Czajka

Riverside Brookfield High School

Ask Me About

Vehicle Class to Inheritance

Up next: Tom Bredemeier

Vehicle Class

- Group work
- UML as a group
- Gallery Walk
- Write class in java (independently)

Lesson Plan - bit.ly/VehicleLesson

Image Source: http://www.bta-mall.com/product_detail.php?id=SKUB00UVZNPBU#hires_images

Sandy Czajka
czajkas@rbhs208.net

Extension to Inheritance!

bit.ly/VehicleInheritance

Sandy Czajka
czajkas@rbhs208.net

			
Write the code to instantiate each object given in the picture.			
List any new attributes the object has that is not part of your Vehicle design.			
List any methods in your Vehicle class you would need to modify for the shown object.			
List any methods you might want to add for the object shown that might not apply for all Vehicles.			

HELLO

My name is

Tom Bredemeier

Barrington High School (Illinois)

Ask Me About

Wordle

Up next: Judy Hromcik

Wordle

This is a complete CS1 Wordle project with a realistic built-in GUI

Adapted from Eric Roberts (Willamette University) 2022 NIFTY Assignments

Significant student scaffolding provided, including a thorough project description with step-by-step instructions that start easy but then build in complexity.

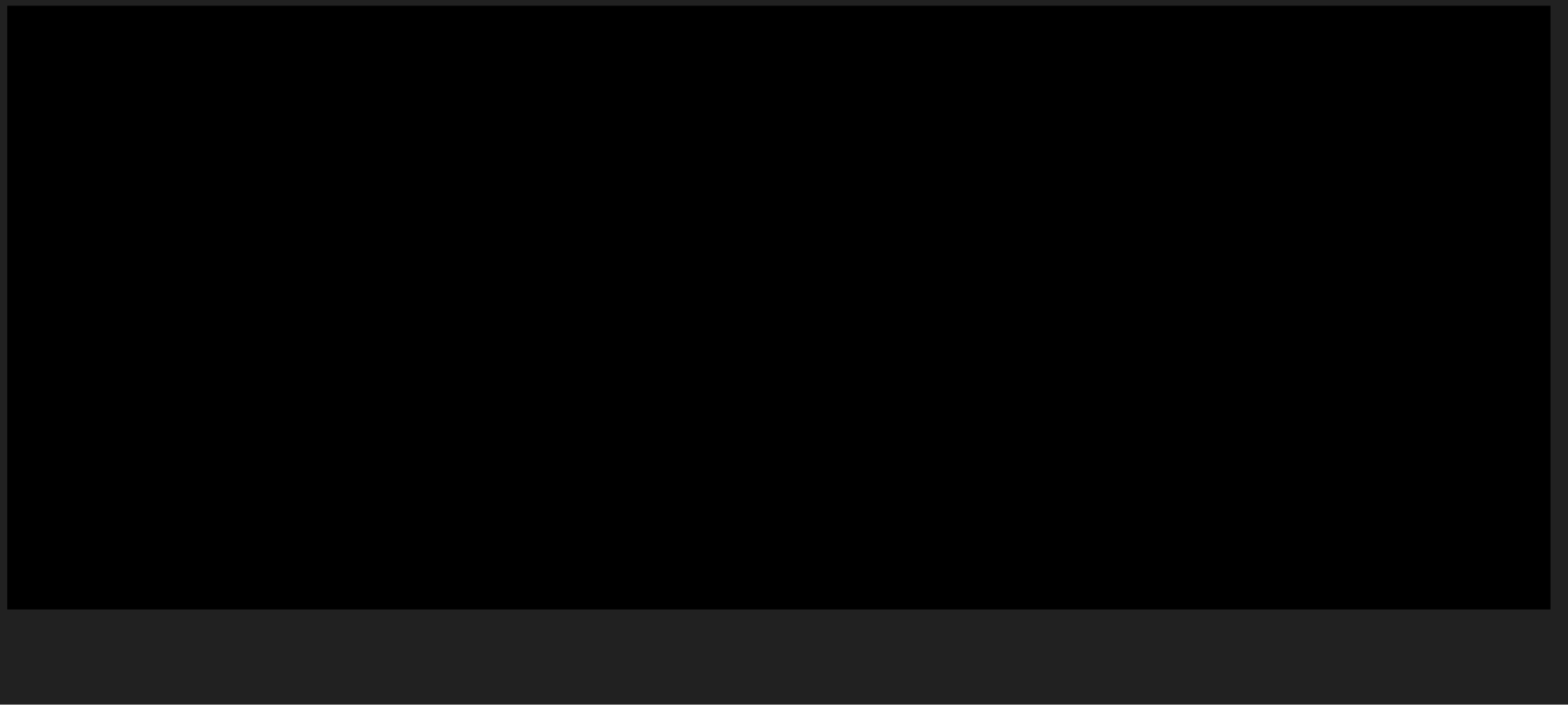
Includes a student-run tester that encourages and guides them though the project.

Designed for use anytime after the introduction of String methods (`equals`, `indexOf` and `substring`), and for/while loops.

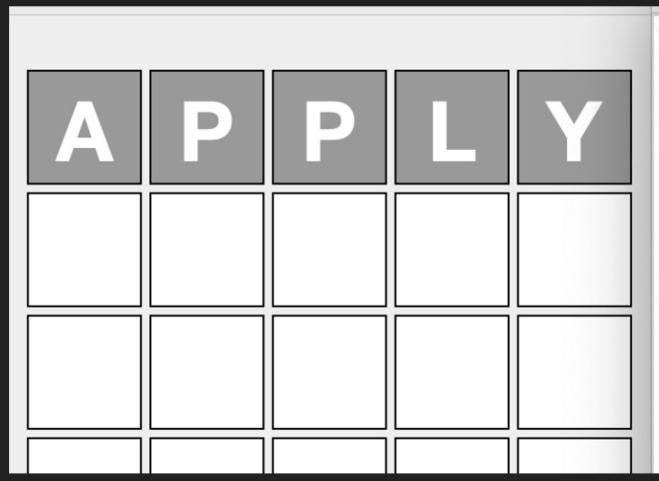
Students simply complete four existing method bodies.

Realistic Wordle GUI

Ready-to-go project description



Built-in student-run tester provides helpful feedback




```
Now testing your Wordle class:

Now testing your setAllLettersToMissing method
   Excellent! Your setAllLettersToMissing method is correct.

Now testing your findCorrectLetters method
*** Failed: Hmm. Looks like you haven't started this one yet.

Bummer.  Try again.
```

Nothing for you to grade! (Students do it all)

```
Now testing your Wordle class:

Now testing your setAllLettersToMissing method
   Excellent! Your setAllLettersToMissing method is correct.

Now testing your findCorrectLetters method
   Nice! Your findCorrectLetters method is correct.

Now testing your presentLetterCount method
   Fabulous! Your presentLetterCount method is correct.

Now testing your findPresentLetters method
   Well done! Your findPresentMethod method is correct.

Bustalicious! You have successfully completed the Wordle project!
-> Wordle project tester version 5.0 <-
```

Complete Project Download Link

H E L L O

My name is

Judy Hromcik

School for the Talented and Gifted

Ask Me About

Arrays

Up next: More Judy…

Teaching Arrays with Stories and Concrete Models

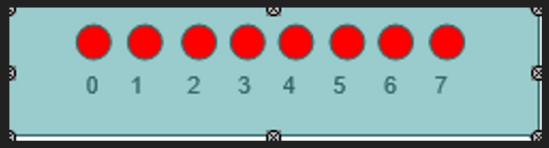
Read “Too Many Daves” from The Sneetches and Other Stories by Dr. Seuss.
A great YouTube video of this story can be found here:

https://www.youtube.com/watch?v=gCsQM0KNXhU&ab_channel=Lisa

Teaching Arrays with Stories and Concrete Models

Use concrete models for abstract concepts
(Bottle Cap Array -idea from: Luis Chaire)

- Piece cardboard
- 8 bottle caps
- Hot glue



Have students place 8 numbers in the array. The blank side of the paper should be showing.

Use the bottle cap array to introduce basic array algorithms:

- Traversing the array
- Find a value in the array
- Find the smallest value in the array
- Move the first value in the array to the last position. Shift all other values one to the left (lower index position)

H E L L O

My name is

Judy Hromcik

School for the Talented and Gifted

Ask Me About

Parameters and M&M's

Up next: Cody Henrichsen

Using M&M's to Demonstrate Parameter Passing

What you need:

- Fun size packs of M&M's
- 4 Dixie cups per student
- Parameter Passing handout

Link to Handout

Link to VIdeo Demonstration

HELLO

My name is

Cody Henrichsen

CTEC

Ask Me About

Pattern Recognition / POGIL / Toy Night Archive / Games

Up next: Amy Pezzoni

Pattern Matching

Find the difference picture to prepare students for debugging and looking at similar lines of code!

Move to common code sequences along the year with 'random' replacements

Hotspot questions in Canvas

Nintendo Switch for CS

Game Builder Garage

Mario Maker 1 and 2

RingFit Adventure

Keep talking and nobody Explodes

POGIL

Process Oriented Guided Inquiry Learning

Great group interaction and learning!

CS 1 / CS 2 / and so much more

contact@introcspogil.org

www.cspogil.org

Toy Night Archive

New URL: https://tinyurl.com/ToyNightAPCS

Long form: https://github.com/CodyHenrichsen-CTEC/ToyNight_APCS

HELLO
My name is

Amy Pezzoni

Enochs High School, Modesto, CA

CTE Computer Science Teacher

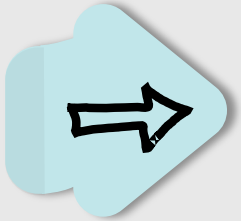
bit.ly/pez-2022

Ask Me About

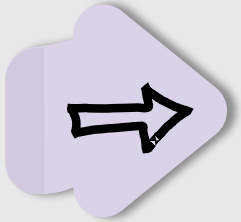
Digital Notebook / SlidesMania / CTE Job Opening

Up next: Sam Black

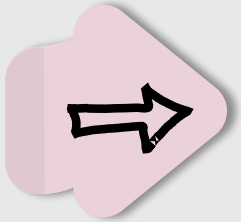
Wouldn't it be nice if...



...students had a better grasp of AP CS A vocabulary?



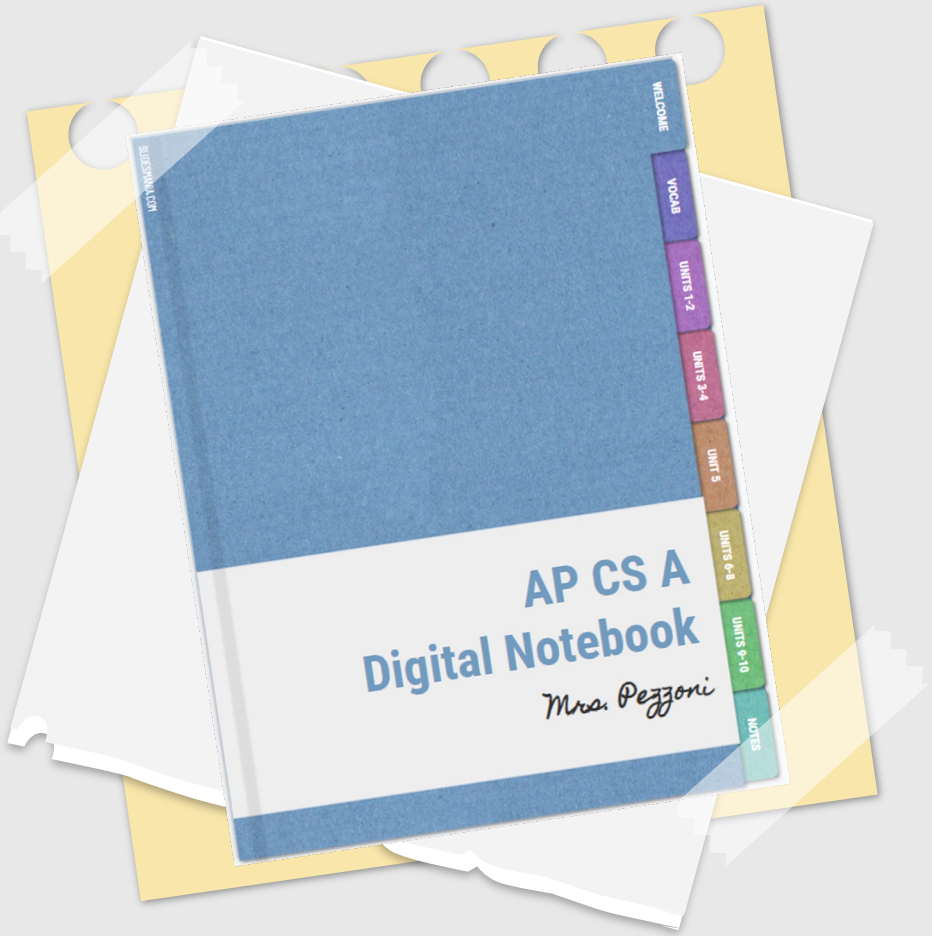
...students had one place to store all their notes?



...students had a notebook they could *never* lose, or forget to bring to class?

Let's get organized!

Thanks, SlidesMania!



Unit 1 - Primitive Types

Variables and Data Types (Unit 1, Lesson 3):

- Record notes here
- Add questions underneath, or use the post-it notes on the side
- Duplicate this slide as needed

WELCOME
VOCAB
UNITS 1-2
UNITS 3-4
UNIT 5
UNITS 6-8
UNITS 9-10
NOTES

AP CS A template

Generic template

Thank you!

Pezzoni.A@monet.k12.ca.us

Enochs SSD Web Page

@akaMrsP

LinkedIn

bit.ly/pez-2022

}

HELLO

My name is

Sam Black

Lubbock High School

Ask Me About

GitHub Classroom

Up next: Ann Horton

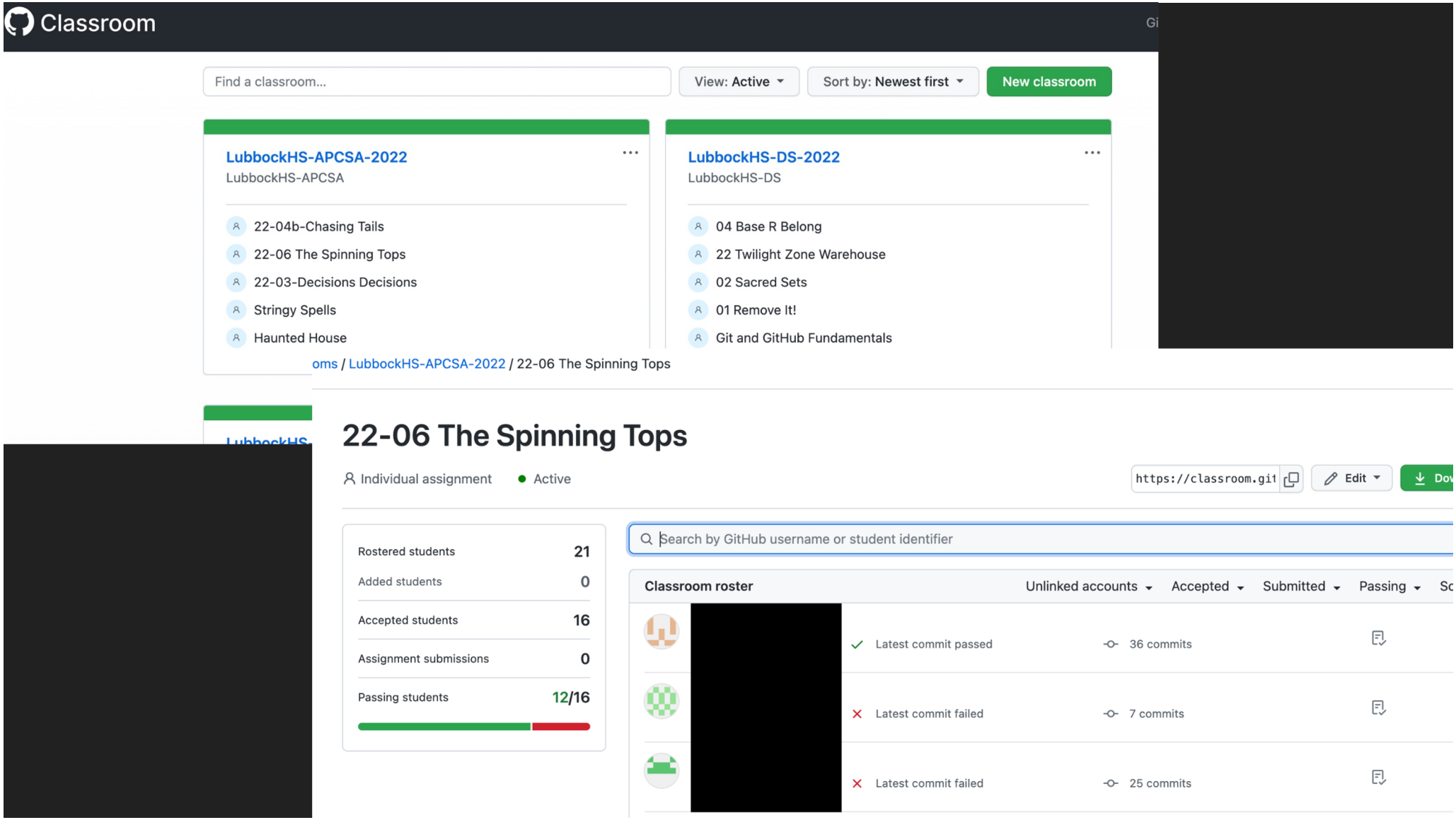
What is it?

GitHub – a repository for programmers to manage their projects in the cloud; particularly useful when it comes to version control

GitHub Classroom – an educational-use tool created to somewhat easily deploy, manage, and collect projects and allow for autograding through JUnit tests

Templates for many languages exist to give a teacher full control over how they deploy their labs without having to learn GitHub Actions on their own.

Free to use for teachers and students. Private repositories make it a little more difficult to clone others' solutions.


Classroom
Find a classroom...
View: Active
Sort by: Newest first
New classroom
LubbockHS-APCSA-2022
LubbockHS-APCSA
22-04b-Chasing Tails
22-06 The Spinning Tops
22-03-Decisions Decisions
Stringy Spells
Haunted House
LubbockHS-DS-2022
LubbockHS-DS
04 Base R Belong
22 Twilight Zone Warehouse
02 Sacred Sets
01 Remove It!
Git and GitHub Fundamentals
oms / LubbockHS-APCSA-2022 / 22-06 The Spinning Tops
22-06 The Spinning Tops
Individual assignment
Active
https://classroom.gi
Edit
Rostered students 21
Added students 0
Accepted students 16
Assignment submissions 0
Passing students 12/16
Search by GitHub username or student identifier
Classroom roster
Unlinked accounts
Accepted
Submitted
Passing
Latest commit passed
36 commits
Latest commit failed
7 commits
Latest commit failed
25 commits

Links

https://education.github.com

https://classroom.github.com

The template I use: https://github.com/csa-teachers-help/practice-problem-advance-maven

HELLO

My name is

Ann Horton

Plano East Senior High

Ask Me About

Visual Aides for tracing

Up next: Debbie Klipp

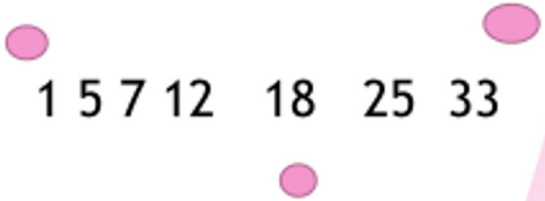
Visual Learners Require Toys as props

You can't just open the computer and show what's in memory

Things I've used in the past

Magnets to trace

```
public int binarySearch(int sn)
{
  boolean found = false;
  int lo = 0;                          // setup low and high to min and max indexes
  int hi = size-1;
  int mid = 0;
  while (lo <= hi && !found)      // if lo = hi, you aren't done, you haven't checked that position
  {
        mid = (lo + hi) / 2;           // calc mid point using int division
        if (intArray[mid] == sn)    // is this the data you are looking for??
              found = true;
        else                           // if not, reset the lo and high indexes for the next iteration
        {                              // make sure you don't recheck the midpoint, you already did that
              if (sn > intArray[mid])
                    lo = mid + 1;
              else
                    hi = mid - 1;
        }
  }  // all done looping.   If found, return where .  If not found, return -1.
  if (found)
        return mid;
  else
        return -1;
}
```



Magnetic letters

Magnets to trace

```
public int binarySearch(int sn)
{
  boolean found = false;
  int lo = 0;                          // setup low and high to min and max indexes
  int hi = size-1;
  int mid = 0;
  while (lo <= hi && !found)      // if lo = hi, you aren't done, you haven't checked that position
  {
        mid = (lo + hi) / 2;           // calc mid point using int division
        if (intArray[mid] == sn)    // is this the data you are looking for??
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              else
                    hi = mid - 1;
        }
  }  // all done looping.   If found, return where .  If not found, return -1.
  if (found)
        return mid;
  else
        return -1;
}
```
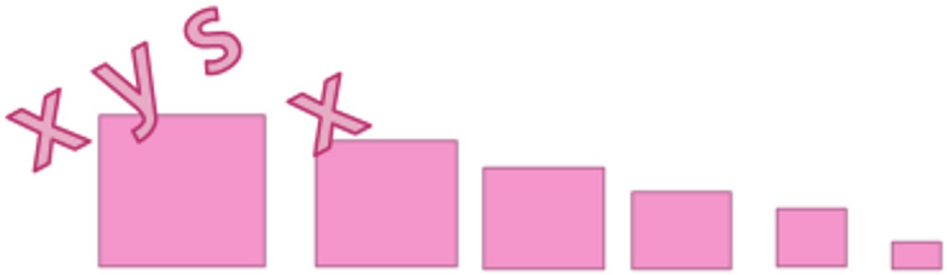

L M H
1 5 7 12 18 25 33
M L H

Or for graphics



For a nested loop, no more worrying about if the pointer is i or j

HELLO

My name is

Debbie Klipp

Florida Virtual School

Ask Me About

Javoo

Up next: Kelly Schultz

Javoo

Based off the game “Taboo” but uses Java terms should know

5 Steps to a 5 AP Computer Science A

2023 Edition available August 2023

Includes a Teacher's Guide with suggestions for teaching APCSA. Suggestions include using various activities (including Javoo)

HELLO

My name is

Kelly Schultz

Western Michigan University

Ask Me About

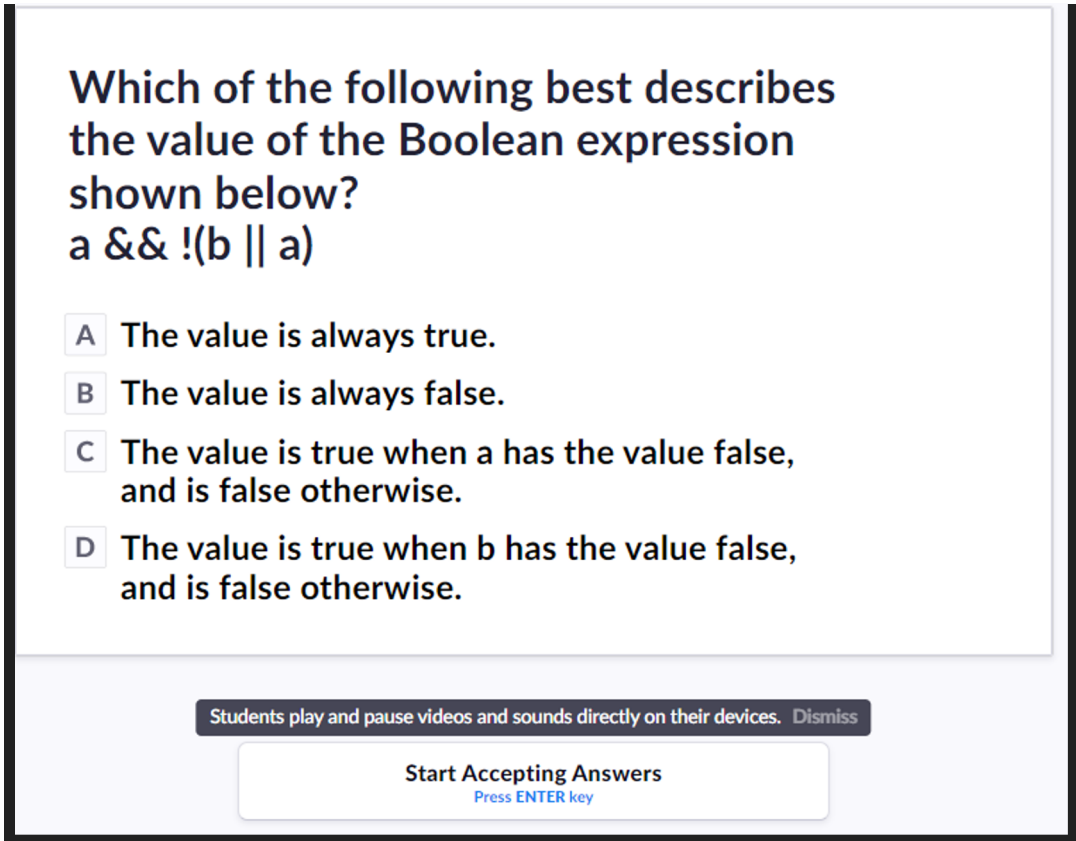
Plickers.com

Up next: Kymberly Ayodeji

Plickers.com

A free website to use to give students multiple choice questions.

- Can be used unplugged
- Can be used online
- Students don’t need any equipment (online needs internet)
- Teachers need a free account and an app on phone (unplugged)



Student Names

Each student has their own account and no one knows who has answered the question correctly - no shaming!

Teachers can see who answered which question and whether they answered correctly.

My students love it.

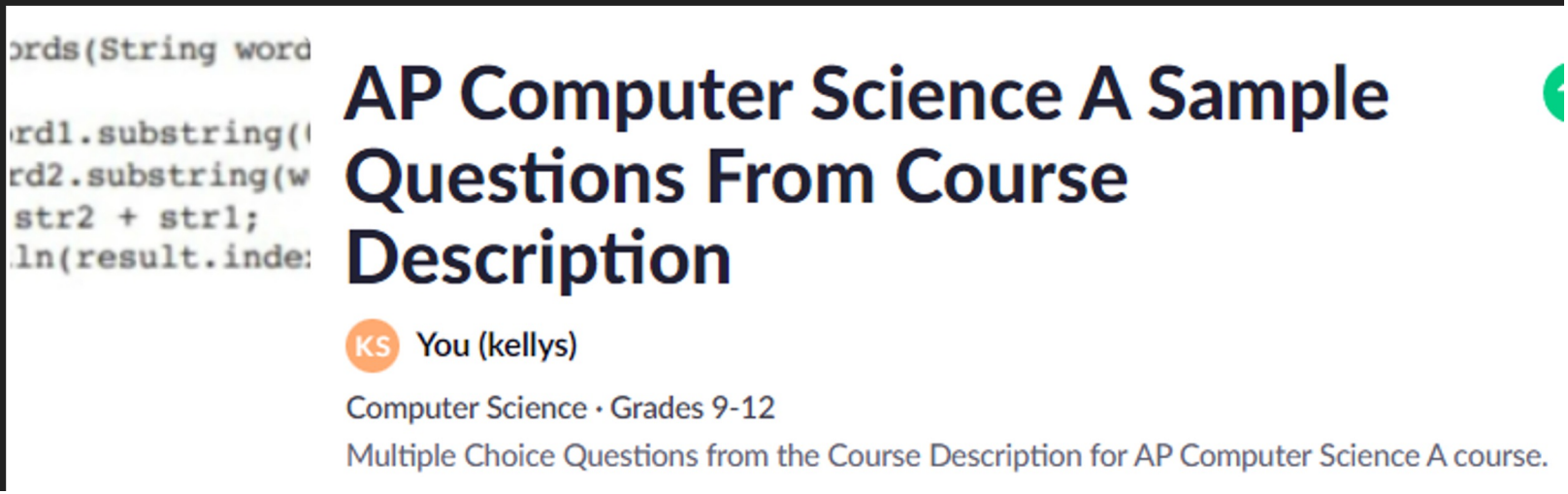
Plickers.com

Questions can be grouped into sets.

SETS CAN BE PUBLISHED!

I have published two sets.

- Binary and Variables
- Course Description Sample Question



Join Me!

Plickers.com

Email: Kelly@dyksterhouse.org

HELLO

My name is

Kymberly Ayodeji

AWS Educate Faculty Cloud Ambassador

Ask Me About

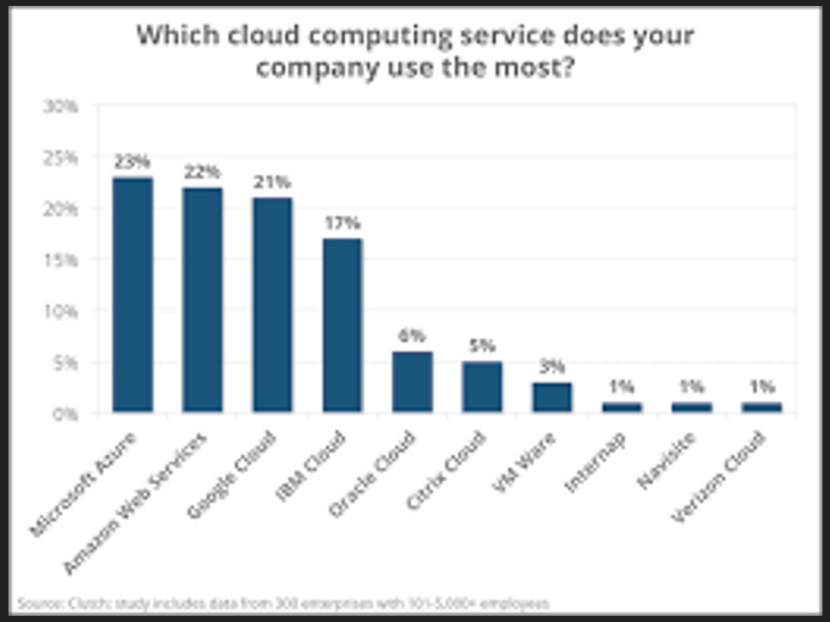
Cloud Computing

Up next: JP O'Hara

Cloud Computing & AWS Educate

Kymberly Ayodeji
ayodejiglp@gmail.com
@kymayodeji
AWS Educate Faculty Cloud Ambassador

What is Cloud Computing?



Dropbox

Google Drive

YouTube

compology

amazon drive

What is AWS Educate?

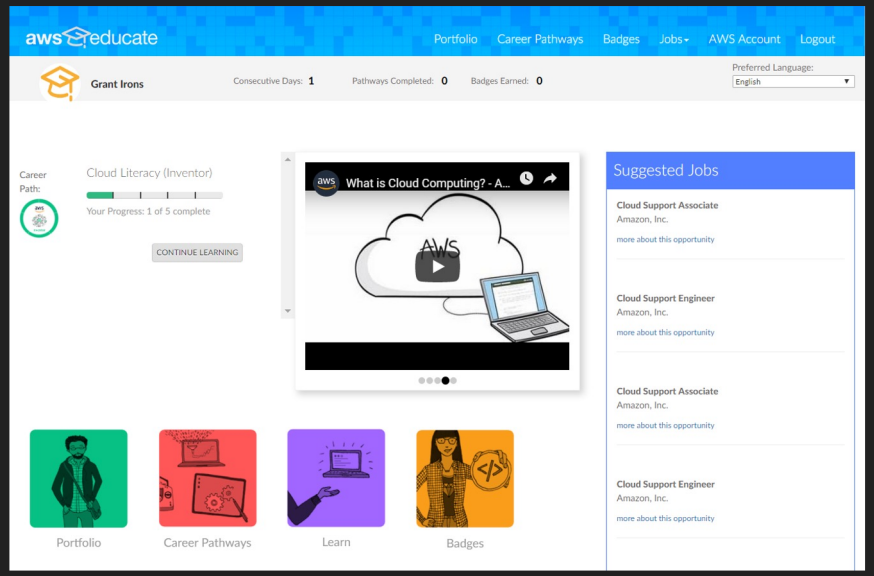
AWS Educate for Students

Access to AWS Console & Classrooms

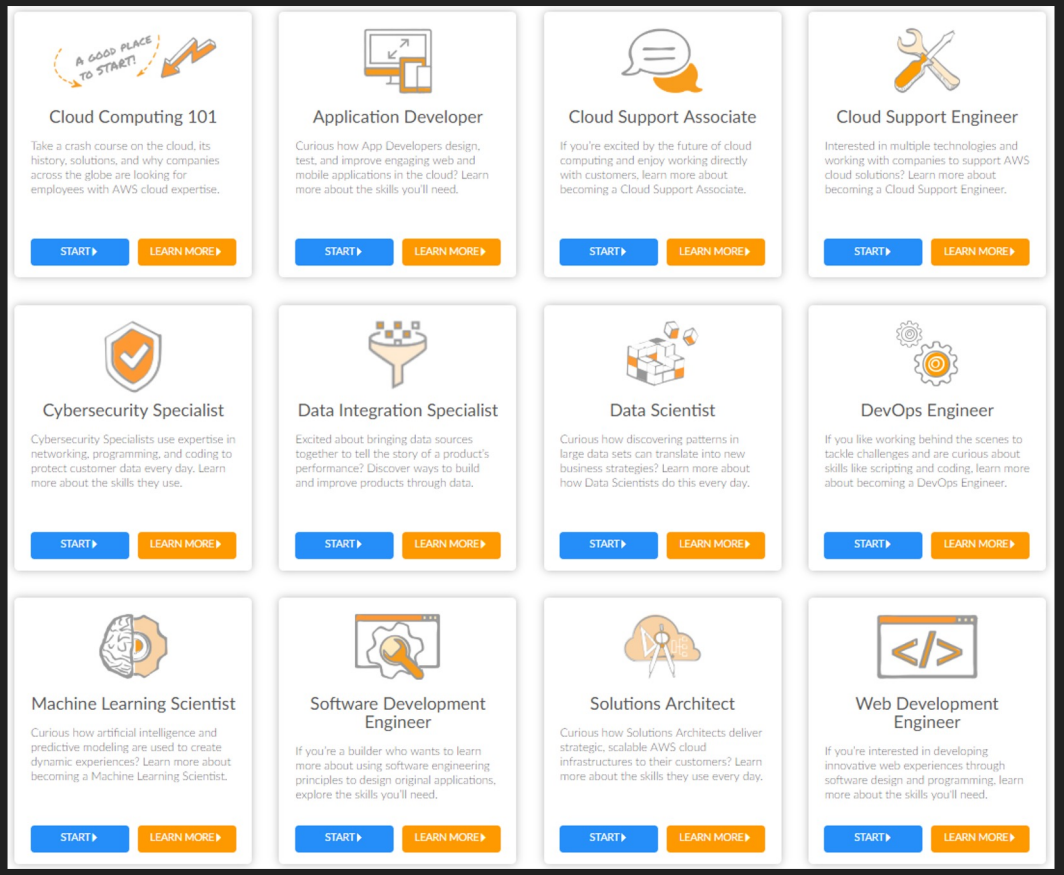
Cloud Career Pathways

Digital Badges

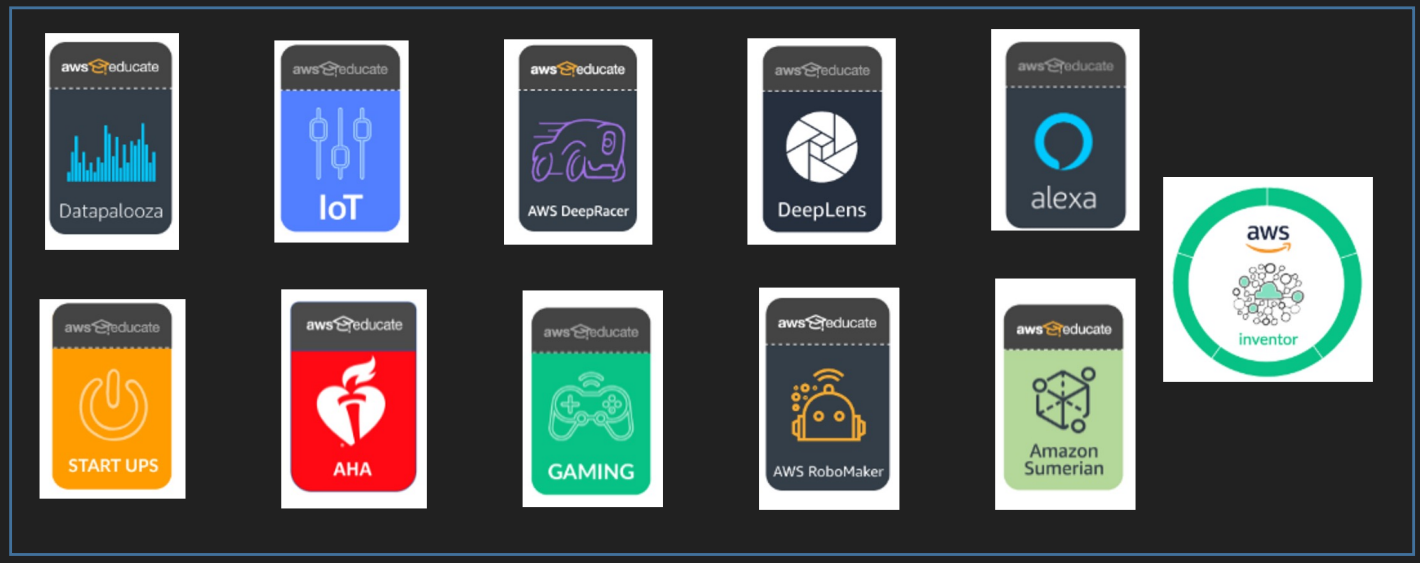
Job Finder



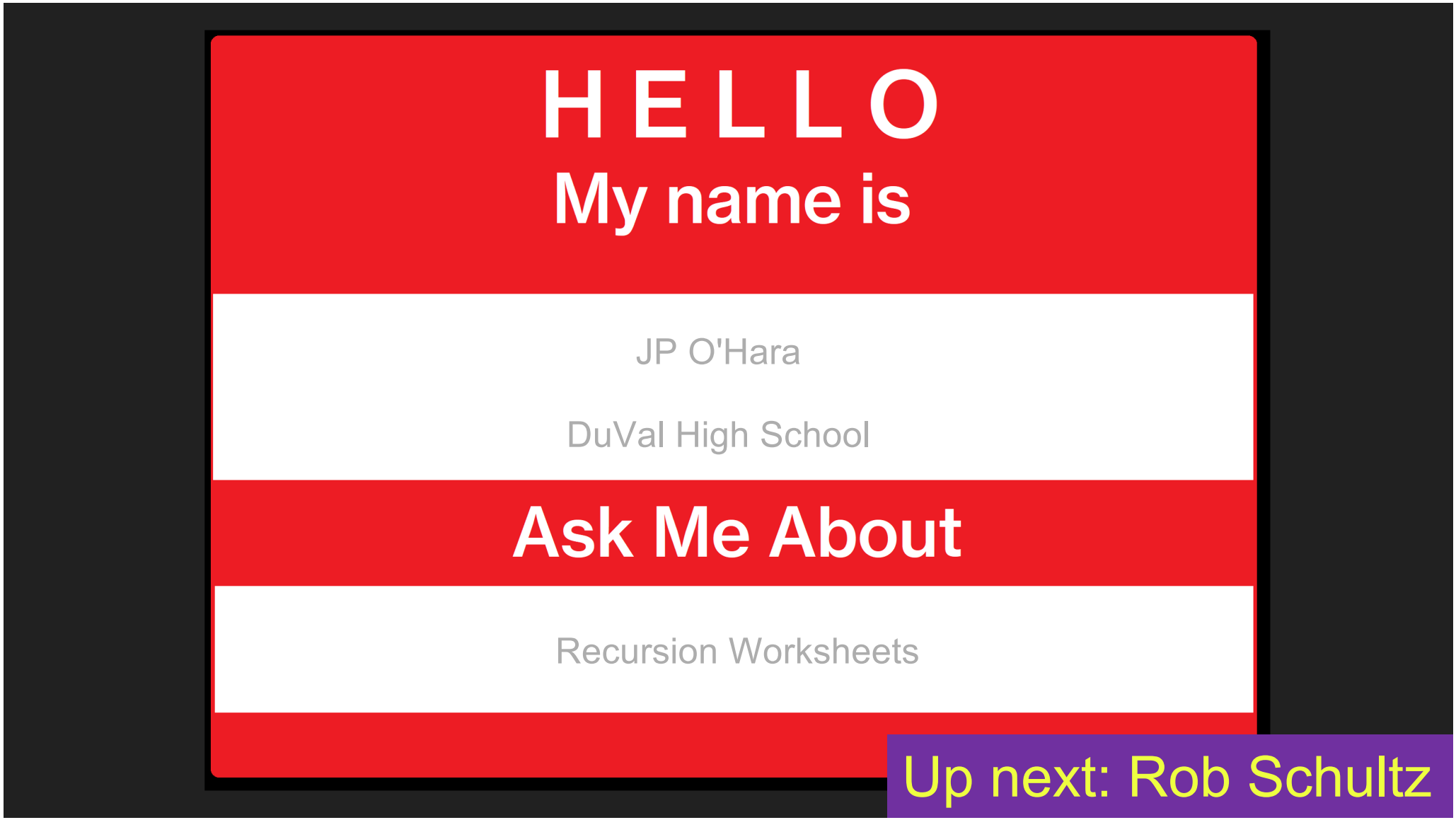
Cloud Career Pathways



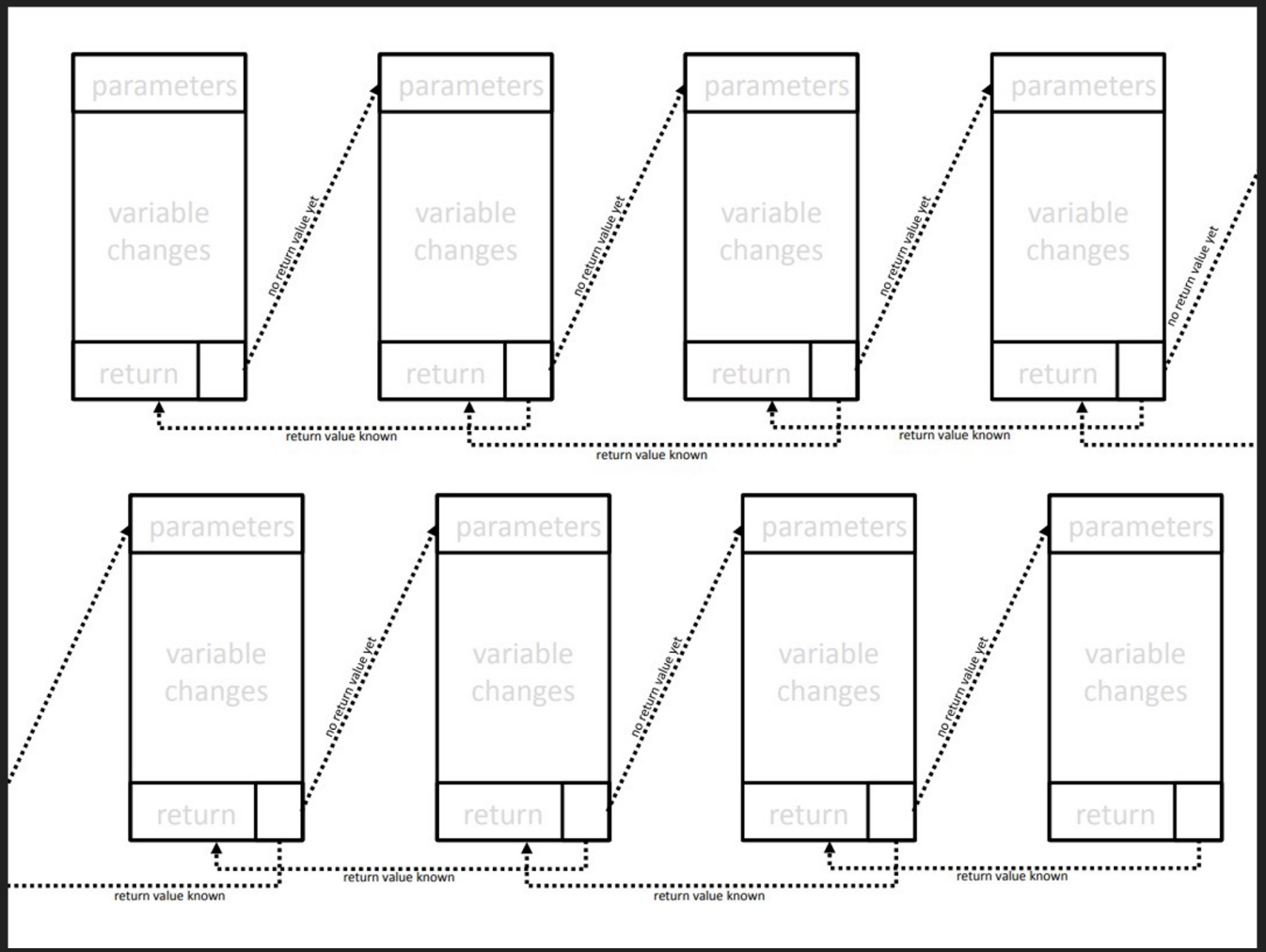
Digital Badges



Content Example: High School


HELLO
My name is
JP O'Hara
DuVal High School
Ask Me About
Recursion Worksheets
Up next: Rob Schultz

Recursion Worksheet



HELLO

My name is

Rob Schultz

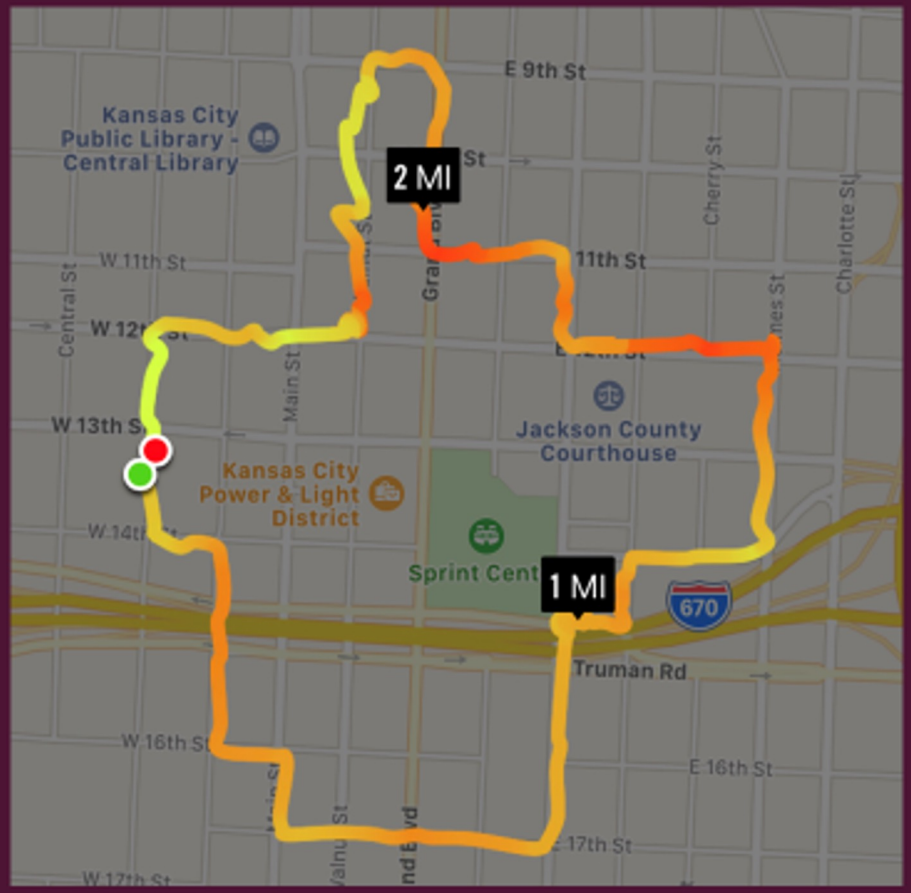
Bellbrook High School

Ask Me About

Differentiation in Lab Projects

Up next: Sage Miller

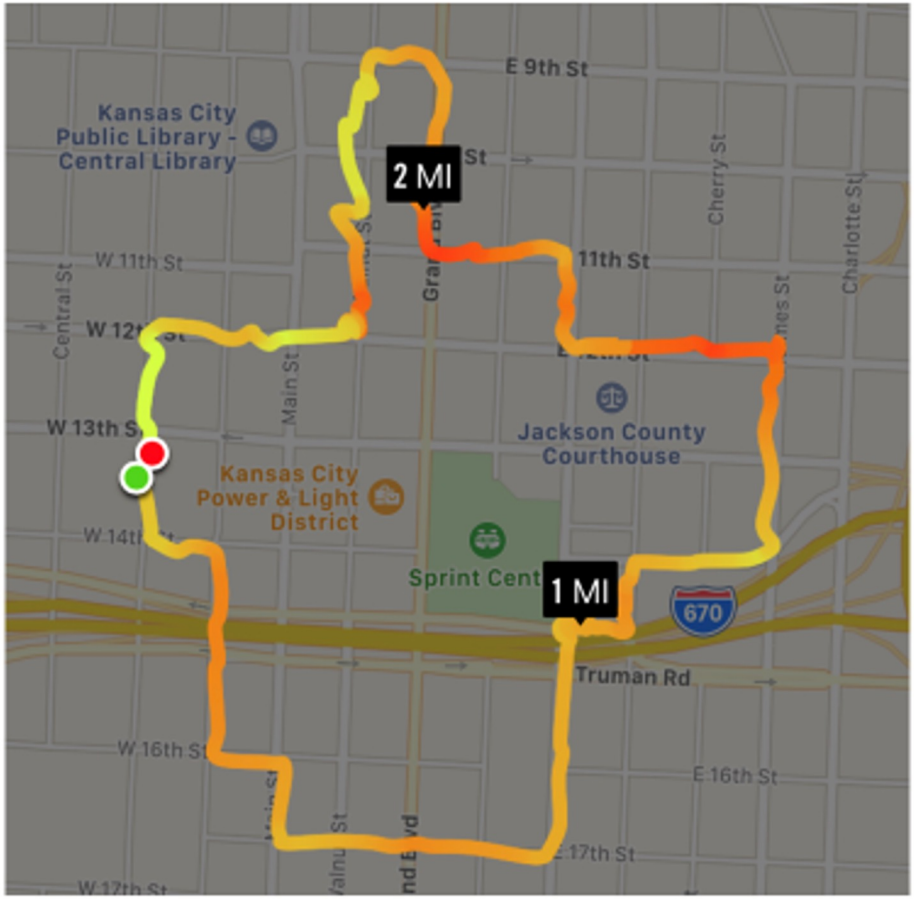
AP CS A – RUNNING GROUP



Parking Lots

Stairs

Short Cuts



Penny Pitch Project

AP Computer Science

Problem Statement:

In the game of Penny Pitch, a board of numbers is laid out as follows:

1	1	1	1	1
1	2	2	2	1
1	2	3	2	1
1	2	2	2	1
1	1	1	1	1

A player tosses three pennies on the board, hoping for the number with the highest value. At the end of the game, the total of the tosses is displayed.

Develop a Penny Pitch game given the following constraints:

- You must use a 2-D Array of Integers.
- Three random spaces must be selected for placement of the pennies.
- If an occupied space is selected, a new space must be selected.
- Each occupied space must be indicated by displaying the letter "P".
- The board must be redisplayed after each penny is thrown.

```
1 1 1 P 1
1 P 2 2 1
1 2 P 2 1
1 2 2 2 1
1 1 1 1 1
Score: 6
```

Penny Pitch Project – Parking Lot Extension

Allow the user to define the size of the board from 3x3 to 18x18

GOAL: Extend 2D Array Skills

- Array Initialization
- Array Traversal
- Random Row and Column Selection

Penny Pitch Project – Stairs Extension

Create a Square Class.
Replace the 2D Array of Integers with a 2D Array of Squares.

GOAL: Include Class Skills

- Use Square constructor to initialize each Square element.
- Use methods to access and update *private* instance variables

Square Class Definition:

- Class: `Square`
- Instance Variables:
  - `private int value;`
  - `private boolean penny;`
- Methods Signatures:
  - `public Square(int v);  // constructor`
  - `public void reset();`
  - `public int hit();`
  - `public int getValue();`
  - `public String toString();`

Penny Pitch Project – Short Cut

ISSUE: Lack of Conceptual Knowledge / Slow Typist

Provide "Guided" Code

GOAL: Hit Objectives and Boost Comfort Level

- Provide partially completed code
- Focus on the Big Ideas
- Allow the student to bypass previously mastered concepts

NOTE: No Free Rides!!

If student is struggling conceptually due to extended absence or lack of effort, then time must be scheduled outside of class in exchange for "Guided" Code.

HELLO

My name is

Sage Miller

Webster Schroeder High School (Webster, NY)

Ask Me About

Potato Head Role Play: Interacting Objects

Up next: Lora Santucci

Potato Head Role Play

Disclaimer: This activity morphs two activities that I hear about at previous Toy Nights! Credit belongs to Dave Levine (original Role Play) and unknown (Potato Head)

Script: https://docs.google.com/document/d/1W6aEuXRqXah2sQh0lVTaZescNHTyVERdaRddksdCOn4/edit?usp=sharing

Important: Do NOT try to purchase before asking your school community if anyone has ones laying around that they are willing to donate. If none are donating, try garage sales to find cheap sets!!! You will want multiple sets:

- Different size bodies
- Multiple types of a few accessories

HELLO

My name is

Lora Santucci

Morris Hills High School

Ask Me About

Duck Draft