

Using Kira's Platform for CS Instruction



Housekeeping Items

REC ●

Webinar is recorded



Slides available along with the recording



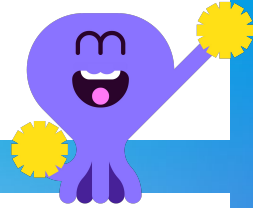
Enter your questions in the Q&A box

Watching On Demand, and have questions?

UPCOMING WEBINARS

Join us for our future webinars

www.kira-learning.com/events



December 5, 4 PM CT

Preparing for and teaching the Kira Learning
Middle School Course

December 12, 4 PM CT

Preparing for and teaching the Kira Learning
High School Course

GOALS FOR THIS WEBINAR

- **Details of Kira Learning's ready-to-use courses**
- **Overview Kira Learning platform**
- **In-depth exploration of platform features that support learning and teaching**
- **Sneak peaks at upcoming features**

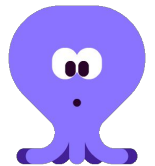


Kira Learning Courses



KIRA COURSES: STRUCTURE

- Courses are typically into units, each consisting of several lessons
- Each lesson consists of multiple steps
- Each step consists of an instructional video or written instructions and a practice activity
- Each step is designed to take 5-10 minutes to complete
- Each lesson is designed to take no more than 90 minutes to complete

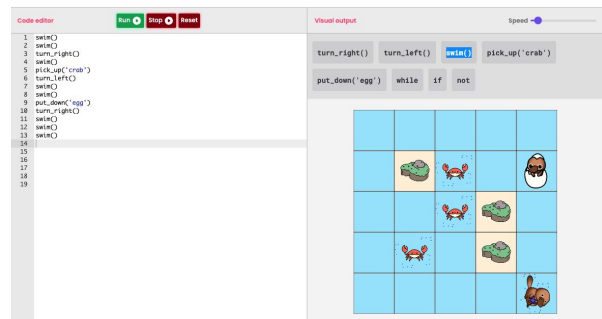


Introduction to CS Fundamentals in Python

- Covers the basics of the Python programming language with emphasis on artificial intelligence applications and data analysis
- Students learn best practices in programming while completing a variety of exercises, assessments, and projects
- **Kernels of Curiosity** sprinkled throughout the course cover computer science topics beyond programming
- Satisfies AP CS Principles curriculum requirements

Middle School Introduction to Computational Thinking and Programming

- Comprehensive course which introduces the concepts of algorithmic-thinking and coding
- Hardware and software aspects of data representation, collection, storage and analysis
- Computer networks and the internet



Artificial Intelligence Methods and Applications

- Students explore AI applications in use today, while reflecting on their impact on society.
- Deep Learning, building and training AI models using the Python libraries PyTorch, SciKit, and NumPy
- AI application development process
- Students build their own AI applications that can be shared with friends and family

Introduction to Web Development

- Fundamental concepts in Full Stack Web Development in Javascript and Python
- Hands-on projects to apply their skills, while exploring AI-relevant concepts such as a Stable Diffusion-based image classifier

Computer Science Applications with Java

- Fundamentals of computer science and how it is used in real world applications with Java
- Preparation for the AP CS A exam

TEACHER GUIDES

Lesson Plan

Unit 1 Lesson 3: Data Types

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Section 1: Activity (10 min.).....	7
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Section 1: Overview

(10 min.)

This **“Do Now” activity** is meant to get the class thinking about how we naturally use data types – specifically, integers, strings and Booleans.

Sample question-and-answer pairs (scramble the answer bank):

Sentences	Answer Bank
The first connected network of computers (before the internet) was designed by the _____ (source).	Department of Defense
Year the first email was ever sent? (source)	1971
Name of first computer programmer? (source)	Ada Lovelace
The first computer, known as the ENIAC, weighed __ tons and took up an entire room (source).	30
__% of the world’s data was created in the last 2 years. (source)	90
Alan Turing used computer science to crack German codes in WWII. (source)	True

Think-Pair-Share: Write the above sentences on the board, and scramble the answer bank. Students in pairs should **match the correct answers to their sentences**. Then, ask students to volunteer their answers and “critically” explain their thinking process.

Teaching Tip: A **Think-Pair-Share** activity involves giving students a prompt to think about, then pairing students up to discuss with each other. Finally, students are invited (or called upon) to share their pair’s thinking with the group.

Learning Goals

By the end of this lesson, students will be able to:

- define data and describe different types of data.
- combine different computer data types.
- print different data types.

Standards Alignment

CSTA K-12 Computer Science Standards	1B-AP-09	Create programs that use variables to store and modify data.
	2-AP-11	Create clearly named variables that represent different data types and perform operations on their values.
Tennessee State Computer Science Standards	MS.AT: Algorithmic Thinking	Use clearly named variables of various data types to create generalized algorithms.
	CS.PC: Programming Concepts	Develop a plan to manage and assign data values of different types (strings, numeric, character, integer, and date) to a variable.

Part 3: Recommended In-Class Instruction

Lesson Part A

Outline with Timings

Section 1 Overview	10 min.	Introduce the learning goals and concept of data types and type inference.
Section 2 Activity	35 min.	Students will work through Steps 1–5 in Unit 1 Lesson 3: Data Types by watching the videos and doing the exercises.

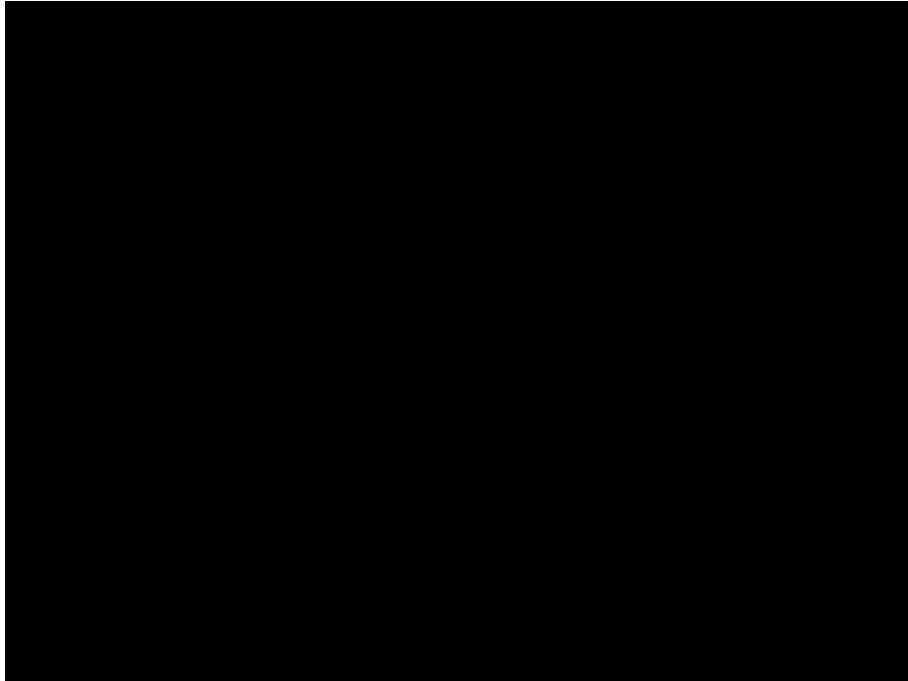
Before the Lesson

- Write the Do Now sentences and their answers (in scrambled order) on the board, or project them on a screen, or print them out and distribute them.
- Complete the lesson activities on your own so that you are prepared to answer questions and provide support as needed.

Kira Learning Platform



STUDENT EXPERIENCE: CLASS AND ACTIVITIES



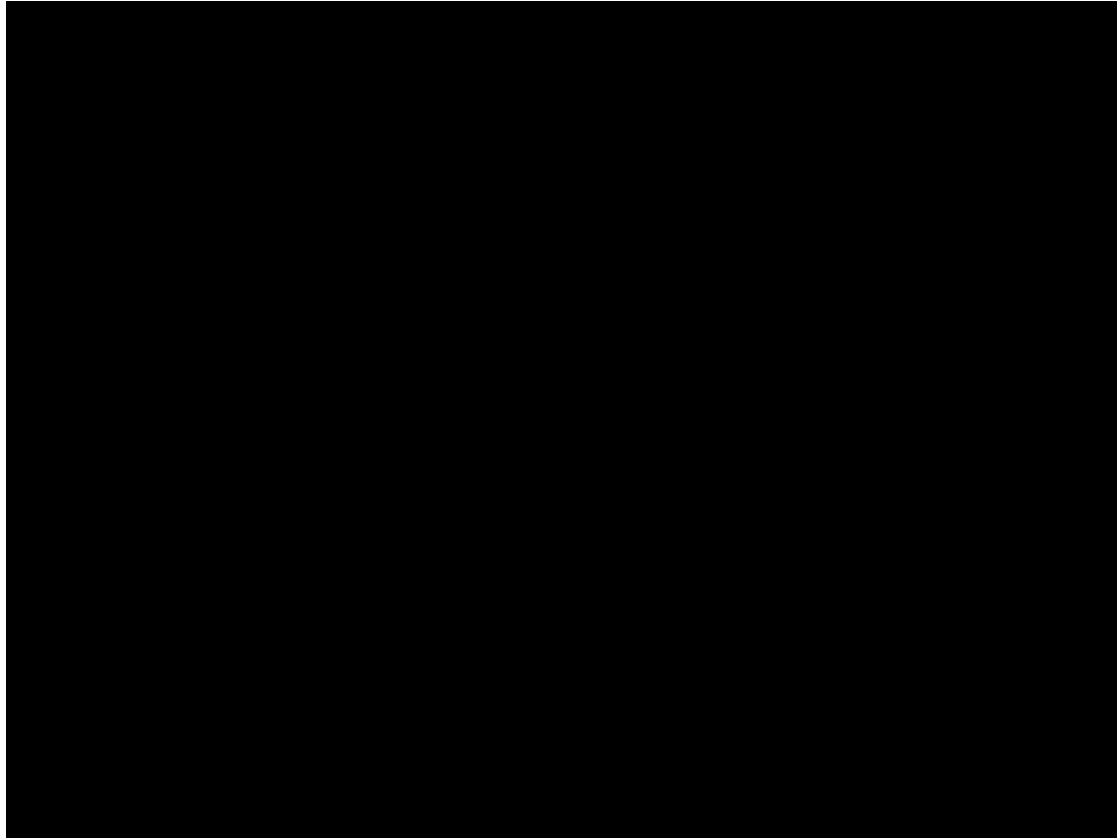
The screenshot displays a user interface for a lesson assessment. At the top, there are navigation links for 'Modules', 'Credits', 'Calendar', 'Discussions', and 'Course Info'. Below these, the page title is 'Lesson Assessment Part 1'. On the left side, there is a 'Hide Navigation' button and a sidebar menu listing various lessons and modules, including 'Lesson 4', 'Lesson 5', 'Lesson 6', 'Module 3', and 'Module 4'. The main content area is titled 'Lesson Assessment Part 1' and contains a 'Quit Questions' section. The first question is a multiple-choice question: '1. What is the result of executing the following code?'. Below the question is a code block with the following code:`number = 4
while number > 0:
 number
 print(number)`

The code block is highlighted in a dark background with red and green text. Below the code block, there are four radio button options for the answer:

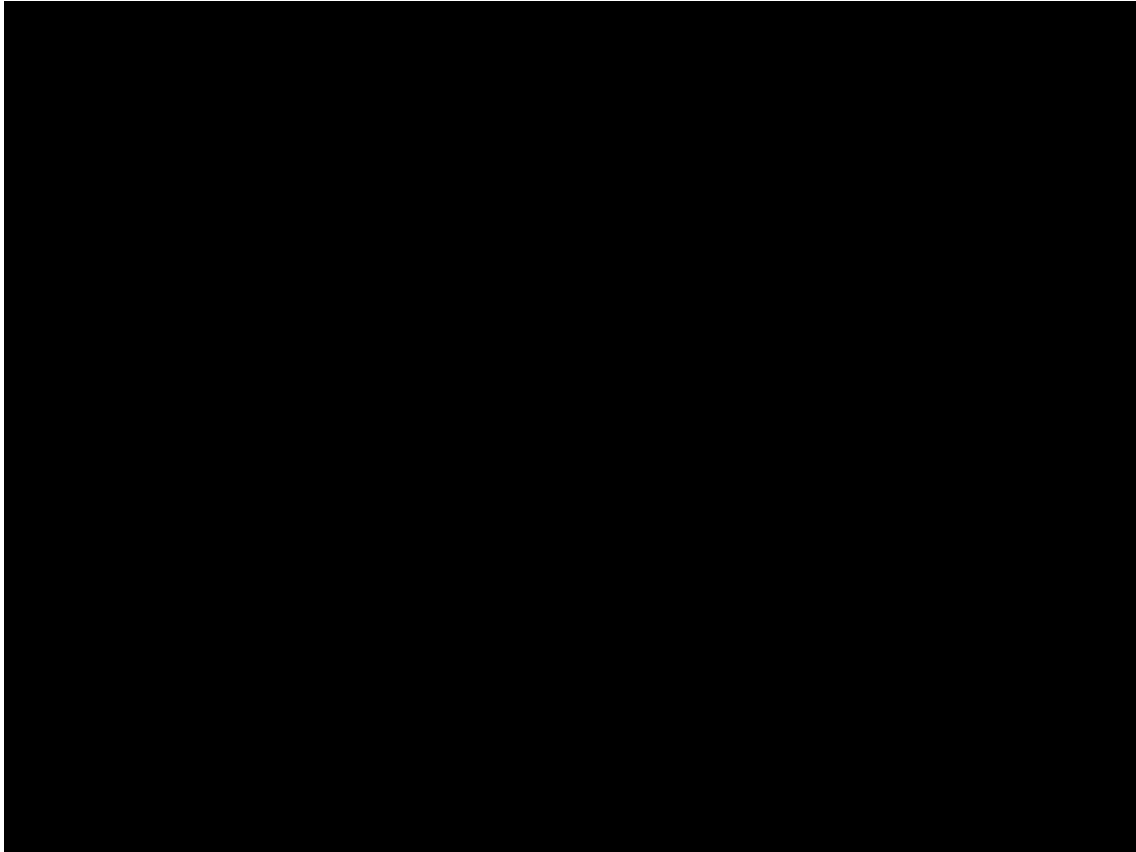
- The program will never finish
- The value of number will be printed exactly 1 time
- The while loop will never get executed
- The value of number will be printed exactly 2 times

The second question is: '2. What will the following code print?'. The interface also includes a 'Stop 4 pts', 'Lesson 11 pts', and 'Submit answer' button. At the bottom, there is a copyright notice: '© 2023 Pearson Education, Inc.' and a 'Next' button.

TEACHER VIEW



STUDENT VIEW



TEACHER EXPERIENCE: GRADEBOOK

The screenshot displays a user interface for a gradebook. At the top, there is a navigation bar with icons and labels for 'Return to Dashboard', 'Grades', 'Modules', 'Calendar', 'Discussions', 'Course Info', and 'Roster'. Below this, a secondary navigation bar includes a 'Hide Navigation' button, the current page title 'Introduction', and progress indicators for 'Step 1 pt' and 'Lesson 16pts', along with navigation arrows.

The main content area is divided into three sections:

- Left Sidebar:** A vertical menu with sections for 'Module 2' (containing 'Unit 2: Decision...'), 'Lesson 1' (containing 'If Statements and Op...'), and 'Lesson 2' (containing 'Decision Trees and Fl...'). Under 'Lesson 1', there is a list of items: 'Welcome to Unit 2!', 'Introduction' (highlighted), 'Conditions to Make...', 'Boolean Values', 'Comparison...', 'Your Turn!', 'Using Multiple...', 'More fun with...', and four 'Lesson Assessment...' items.
- Center:** A video player with a dark blue background. The text on the video reads 'INTRODUCTION TO COMPUTER SCIENCE' at the top, 'Unit 2, Lesson 1' in large white letters, and 'If Statements & Operators' below it. A play button icon is centered over the text, with 'Watch the Video' written underneath.
- Right Panel:** Titled 'Written Reflection', it shows a question: '1. What are some decisions you make every day based on whether something is true or not? For example, you might decide whether to bring an umbrella based on if it is raining or not. Write at least two such decisions that you make!'. Below the question is a large, empty text box with the placeholder text 'Write your answer here'.

TEACHER EXPERIENCE: INVITING STUDENTS & ROSTERS

The dashboard is titled "Hello Austin Totty!" and features a top navigation bar with "TEACHER ADMIN STUDENT" roles and a "TEACHER" dropdown menu. The main content is organized into several panels:


- My Classes:** A vertical list of class cards with progress indicators. The first card shows 4% progress for "Kira Offsite June 6 AI Course Unit 1 Lesson 1". Other cards show 1% and 0% progress for various Python and debugging courses.
- Assignments to Grade:** A panel showing 0/6 assignments. It includes a filter by "Class" and "Module". A list of assignments includes "Intro to CS Python Course- June 2023" and several "MIL" (Module In-Lesson) assignments with their respective grades (e.g., "1 to grade", "0 to grade").
- Student Support:** A panel showing 0/59 students. It lists students like "Jagriti Agrawal" and "Andrea Pasinetti" with their course information and a "Hasn't logged in recently" status. Each student entry has chat and profile icons.
- Daily Challenge!** A panel featuring a cartoon character and a purple button that says "Check the daily challenge".
- Calendar:** A calendar for July 2023. The 28th is highlighted in purple, indicating a live session. The 29th and 30th are also highlighted in purple. The 1st and 2nd are highlighted in red. The 6th, 8th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, and 30th are marked with "Anytime" (green dot). The 31st is marked with "Live" (blue dot).



[Return to Dashboard](#) [Modules](#) [Grades](#) [Calendar](#) **Discussions** [Support](#) [Course Info](#)


[Hide discussions](#)


Search a conversation

Module 3: Exploring How Algorithms Shape our Everyday Experiences  Teacher


Algorithms have become an integral part of our modern lives, shaping the way we interact with technology, make decisions, and consume information. Take a moment to reflect on the role of algorithms in today's world.

How do algorithms impact our daily experiences, from the content we see on social media to the products recommended to us? Consider both the positive and negative aspects of algorithmic influence. How do they enhance convenience and efficiency, and what might be potential pitfalls?

 **Austin Totty**

 7 hours ago

Algorithms control everything we see on the internet, from from physically being able to view the page on a device, to targeting and tailoring ad content. The advantages are we get a customized experience based on our input across many platforms. A disadvantage of this is would be privacy concerns.

 2 days ago

Algorithms play such an important role in shaping our daily experiences especially when it comes to social media. For example, if you are searching for an item via google you may find that an algorithm has been created within your Facebook account. You will continuously find this item/ad popping up. This can be seen as negative or positive.

PINNED BOARDS (6)

Module 3: Exploring How Algorithms Shape our Everyday Experiences

Module 7: Collaboration and Communication - Building Essential Skills for Computer Science Careers

Module 6: Exploring Computer Science in Your Community

Module 4: Lessons Learned from Embracing the Student Perspective

Module 5: Data Collection and Usage: What's Happening to Your Information?

Module 2: Exploring the Interplay of Computational Thinking across Subject Areas



Hello Austin Totty!

Austin Totty * TEACHER
TEACHER ADMIN STUDENT

My Classes



Assignments to Grade

0 / 10

Filter by

- Intro to CS Python Course- June 2023
- MIL2 - Your Turn! [1 to grade](#)
 - MIL2 - Lesson Assessment Part 3 [0 to grade](#)
 - MIL2 - Making Mistakes! [0 to grade](#)
 - MIL3 - Lesson Assessment Part 2 [0 to grade](#)
 - MIL4 - Your Turn to Practice! [1 to grade](#)
 - MIL6 - Lesson Assessment Part 3 [3 to grade](#)

Daily Challenge!



Check the daily challenge

Student Support

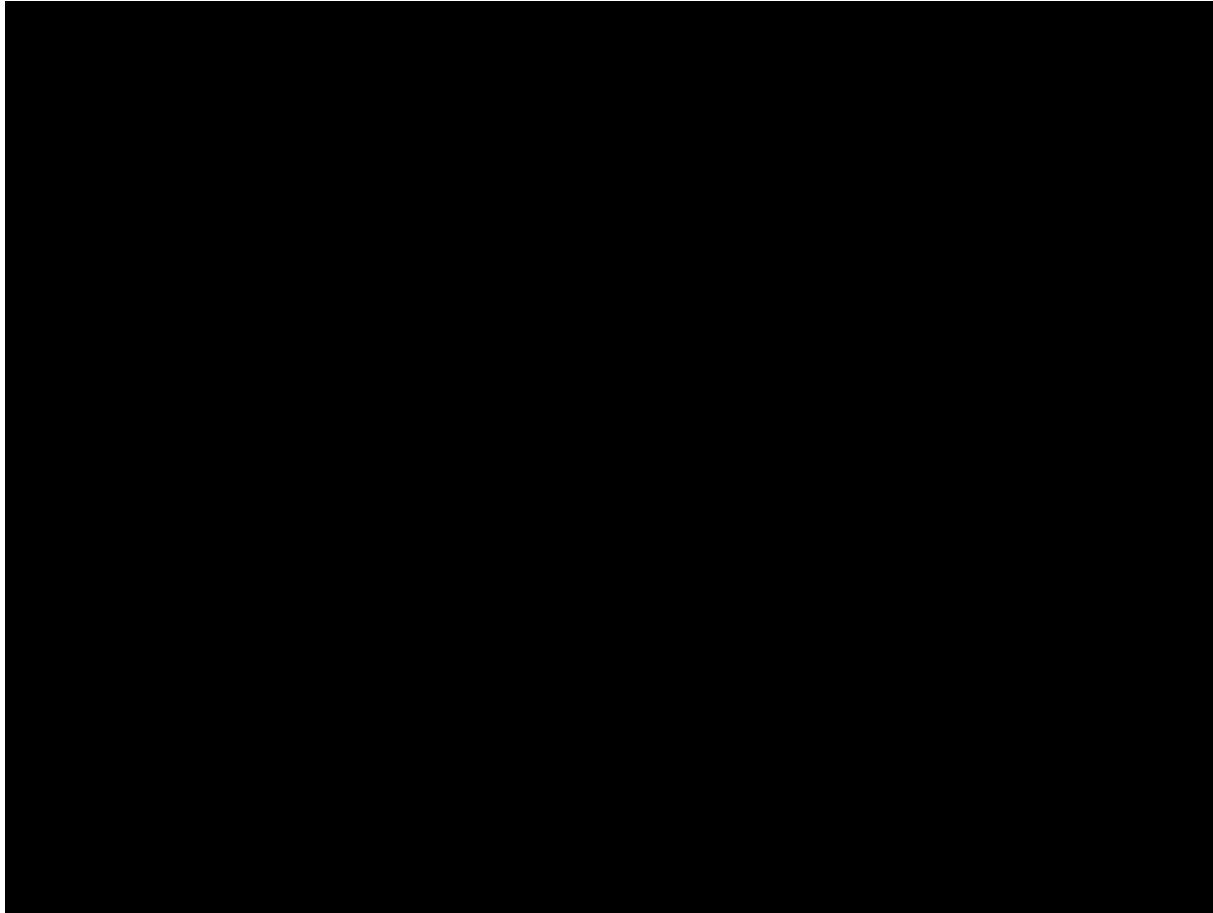
0 / 70

- Jagriti Agrawal**
Kira Offsite June 6 AI Course Unit 1 Lesson 1
Hasn't logged in recently
- Andrea Pasinetti**
Kira Offsite June 6 AI Course Unit 1 Lesson 1
Hasn't logged in recently
- Dilara**
Kira Offsite June 6 AI Course Unit 1 Lesson 1
Hasn't logged in recently

Calendar



IN DETAIL: PLATYPUS ACTIVITY



Building a Bar Graph from Large Datasets

Step 1 pt

Lesson 10 pts



Submit exercise >



Your Task:

Modify the code to produce a bar chart that compares the generosity of each country (instead of corruption). Then, add in the following:

- Title: "Most Generous Countries"
- X-axis label: "Country"
- Y-axis label: "Generosity index"
- Rotate the x-ticks by 60 degrees so that the industry labels are more clear

Notice that the index can also be negative. What do you think this means? This is where it is important to look into what the units of a particular variable are and look at the description of the dataset you are using!

Code editor

```
1 import matplotlib.pyplot as plt
2 import pandas as pd
3 pd.set_option("display.max_columns", None)
4
5 df = pd.read_csv("world-happiness-report-2019.csv")
6
7 data = df[['Country name', 'Perceptions of corruption']]
8
9 data_sorted = data.sort_values('Perceptions of corruption',
10                               ascending=True)
11
12 # Select the top 10 countries with the highest generosity
13 top_data = data_sorted.head(20)
```

Code output

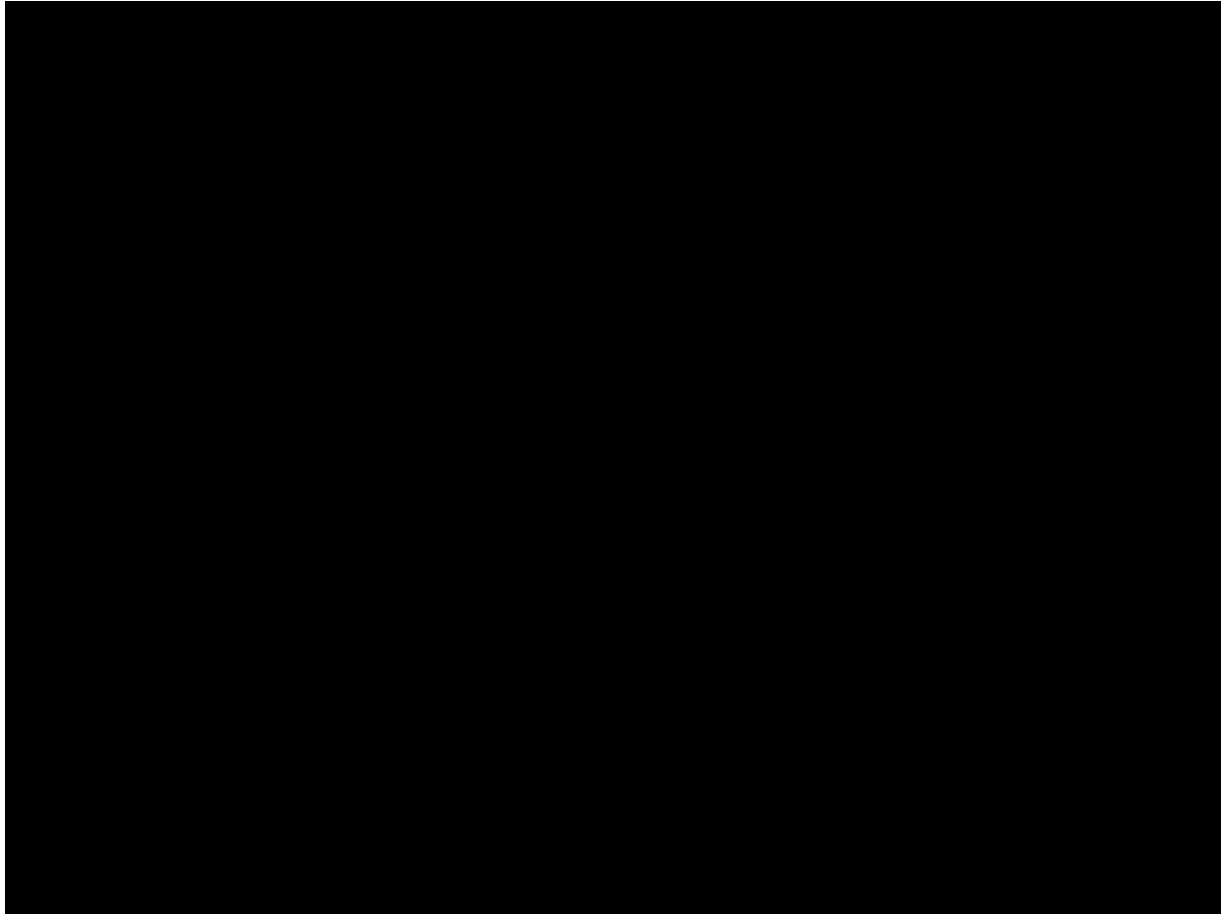
Stop

Reset

Run Code

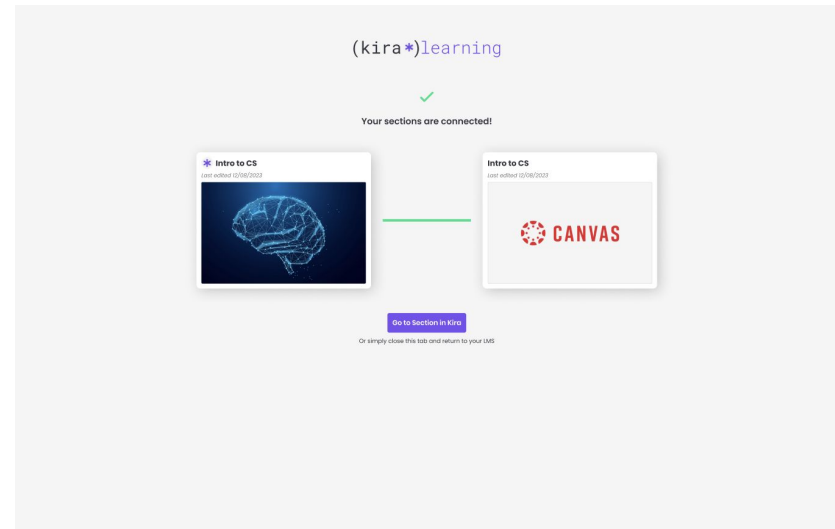
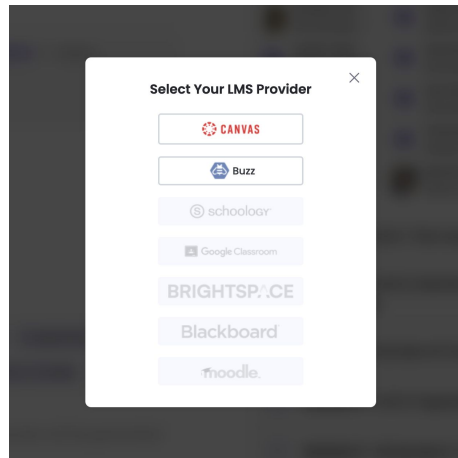
Upcoming Features





LMS INTEGRATIONS

- LTI 1.3 Advantage
- SSO
- Roster sync
- Grade/Assignment Sync



GRADEBOOK UPDATES

Gradebook		1. The Fundamentals of Computer Science												2. Another Unit Name					3. Another Unit Name			
COURSE METRICS		1.1 Artificial Intelligence							1.1 Artificial Intelligence					1.1 Artificial Intelligence								
			1.1.1	1.1.2	1.1.3	1.1.4	1.1.5		1.1.1	1.1.2	1.1.3	1.1.4	1.1.5		1.1.1	1.1.2						
Average Class Score	80	99	77	3	3	3	3	3	99	77	3	3	3	3	99	77	3	3				
Median Class Score	80	90	55	3	3	3	3	3	90	55	3	3	3	3	90	55	3	3				
Total points possible	80	65	84	3	3	3	3	3	65	84	3	3	3	3	65	84	3	3				
<input type="checkbox"/> NAME	TOTAL POINTS																					
<input type="checkbox"/> Kaori Miwa	82	88	88	3	3	3	3	Grade	88	88	3	3	3	3	Grade	88	88	3	3			
<input type="checkbox"/> Kaori Miwa	75	88	100	3	3	3	3	3	88	100	3	3	3	3	88	100	3	3				
<input type="checkbox"/> Kaori Miwa	91	88	88	3	3	Grade	3	3	88	88	3	3	Grade	3	3	88	88	3	3			
<input type="checkbox"/> Kaori Miwa	75	88	92	3	3	3	3	Grade	88	92	3	3	3	3	Grade	88	92	3	3			
<input type="checkbox"/> Kaori Miwa	90	100	100	3	3	3	3	3	100	100	3	3	3	3	100	100	3	3				
<input type="checkbox"/> Kaori Miwa	87	88	88	3	3	3	3	3	88	88	3	3	3	3	88	88	3	3				
<input type="checkbox"/> Kaori Miwa	91	92	88	3	3	3	3	3	92	88	3	3	3	3	92	88	3	3				
<input type="checkbox"/> Kaori Miwa	56	100	88	Grade	3	3	3	Grade	100	88	Grade	3	3	3	Grade	100	88	Grade	3			
<input type="checkbox"/> Kaori Miwa	91	88	100	3	3	3	3	3	88	100	3	3	3	3	88	100	3	3				
<input type="checkbox"/> Kaori Miwa	75	88	88	3	3	3	3	3	88	88	3	3	3	3	88	88	3	3				
<input type="checkbox"/> Kaori Miwa	88	88	24	3	3	3	3	3	88	24	3	3	3	3	88	24	3	3				
<input type="checkbox"/> Kaori Miwa	88	100	88	3	3	3	3	3	100	88	3	3	3	3	100	88	3	3				
<input type="checkbox"/> Kaori Miwa	88	88	66	Grade	3	3	Grade	3	88	66	Grade	3	3	Grade	3	88	66	Grade	3			
<input type="checkbox"/> Kaori Miwa	88	24	88	3	3	3	3	3	24	88	3	3	3	3	24	88	3	3				
<input type="checkbox"/> Kaori Miwa	90	88	75	3	3	3	3	3	88	75	3	3	3	3	88	75	3	3				

GRADING UPDATES

← Course AI Applications & Comp... Section Friends of Kira Class C x

Students Assignments Needs grading 2 Release Grades

O. Long Last Name Jr. x

C. Barstow Total 6.5 / 10

Submission 4/4 on Sep. 10 See history

Assignments

- 11.3 Getting input from th... Grade
- 11.5 Putting it all together... Grade
- 12.5 Getting Numerical L... Grade
- 21.4 If-Else Statements Grade
- 21.13 If-Else Statements Grade
- 22.4 Elif Statements Grade
- 6.6.16 Nested If Statemen... Grade
- 6.6.17 Another type of Nested If... 50%
- 8.4.5 Complexity of Self Driving... 80%
- 8.9.18 Coding While Loops 90%
- 13.4.6 Accessing Key-Value Pairs 55%
- 13.6.3 Your Turn! -
- 14.5.5 Creating Dictionaries -
- 14.6.9 Lists versus Dictionaries -
- 15.5.11 Accessing Key-Val... -
- 15.8.8 Looping through a... -
- 16.3.3 Genre Filters -
- 17.7.7 Nested Data Structu... -
- 18.8.5 Encryption and Dec... -
- 18.10.5 Types of Encryption -

Grade & Feedback Content

Program Correctedness 3 / 5

Supa Dupa Long grading criteria 2 2 / 3

Leave Feedback (optional)

Roboto Normal B i U

Write something

Ask To Re-Submit

Prev Next student

Grade is automatically saved

Run

```
1 #Lesson 1 Exercise 1: Welcome to AI programming!
2 print("Welcome to AI Programming!")
3 #The print() function prints the given object to the standard output device (screen) or to th
4 print("Python is fun")
5 #sep, end, file, and flush are keyword arguments. If you want to use sep argument, you have t
6 print("I love Kira")
7 #In Python, you can print objects to the file by specifying the file parameter.
8 #It doesn't return any value; returns None.
9 print("Is the lesson over?")
10 print("Welcome to AI Programming!")
11 #The print() function prints the given object to the standard output device (screen) or to th
12 print("Python is fun")
13 #sep, end, file, and flush are keyword arguments. If you want to use sep argument, you have t
14 print("I love Kira")
```

Console Test Cases Results Canvas

```
Welcome to AI Programming!
Python is fun
I love Kira
Is the lesson over?
Welcome to AI Programming!
Python is fun
I love Kira
Is the lesson over?
```


QUESTIONS?

Visit www.kira-learning.com or www.computersciencetn.org



**For questions about the Kira platform
or courses:**

tn@kira-learning.com

For all other questions:

ashe@battelle.org