Name: Robert Lefrandt	Grading Quarter: 2	Week Beginning: 06 11/20/2023
School Year: 2023-24	Subject: Software & App Design	

Monday

Notes:
11/20/2023

Operators and Expressions in Python - Real Python

A sequence of operands and operators, like a + b - 5, is called an **expression**. **Python** supports many operators for combining data objects into **expressions**.

Compare other LMS's

Harvard CS50x

MS Visual Code Studio AI assistants

Prompt Engineering

AFE CS AP Principles

Python Programmer Certification (PCEP)

*****Discuss purchases/CTE Assessment/tests/New Unit 3- Loops:**

- **Assessment: Unit 2 Review Test -Retake**
- Certifications- Web, Python, Arduino- C/C++
- DEC(Eastern Az)/FBLA Skills Competitions
- Physical computing-programming
- VCode/Python IDE Cloud/online
- Thonny IDE : Talked w/ BRHS Helpdesk installed Desktops Robotics/FabLab (*See if installing libraries an issue)
- SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials, 450+ Items, 117 Projects, MicroPython, Piper Make and C/C++ (Compatible with Arduino IDE)

Objective:

Students learn how to program:

TechSmart Unit 3: Loops:

Lesson 3.1 While Loops

- Use while loops to repeat code until the user chooses to stop
- Create loops that are governed by a single boolean control variable
- Use the following techniques: Force Correct Input, Nested Loops, Player Turns, True Until False

Lesson 3.2: Controlling Loops

- Use break to exit a loop early
- Use continue to skip the remainder of a loop iteration

Lesson Overview:
Students will login to their Smart Tech Coders CS 201 Python accounts. Students will work though the Learning Management System (LMS) curriculum to learn Python.

Activity Library

*****If finish TechSmartCoders – Python Daily Lessons and Activity library, then go to: FreeCodeCamp and work on Front/Back End Web Stack and Certifications*****

Academic Standards:
AZ_CTE SoftwareAppDesign TechStandards

STANDARD 1.0
APPLY PROBLEM-SOLVING AND CRITICAL THINKING SKILLS

Iterative/Loops
STANDARD 7.0 UTILIZE ITERATIVE STRUCTURES IN WRITING PROGRAMS

7.1 Identify various types of iteration structure (e.g., while, for, for-each, and recursion)

7.2 Identify how loops are controlled (variable conditions and exits)

7.3 Use the correct syntax for nested loops

7.4 Compute the values of variables involved with nested loops

STANDARD 12.0
DEVELOP A PROGRAM

STANDARD 13.0
TEST AND DEBUG TO VERIFY PROGRAM OPERATION

STANDARD 14.0
UTILIZE AND CREATE COMMUNITY RESOURCES
14.1 Use standard library functions

Tuesday	Notes: 11/21/2023 Operators and Expressions in Python - Real Python A sequence of operands and operators, like a + b - 5, is called an **expression**. **Python** supports many operators for combining data objects into **expressions**. Compare other LMS's Harvard CS50x MS Visual Code Studio AI assistants Prompt Engineering AFE CS AP Principles Python Programmer Certification (PCEP)	*****Discuss purchases/CTE Assessment/tests/New Unit 3- Loops:** • **Assessment: Unit 2 Review Test -Retake** • Certifications- Web, Python, Arduino- C/C++ • DEC(Eastern Az)/FBLA Skills Competitions • Physical computing-programming • VCode/Python IDE Cloud/online • Thonny IDE : Talked w/ BRHS Helpdesk installed Desktops Robotics/FabLab (*See if installing libraries an issue) • SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials, 450+ Items, 117 Projects, MicroPython, Piper Make and C/C++ (Compatible with Arduino IDE) *Objective:* **Students learn how to program:** **TechSmart Unit 3: Loops:** Lesson 3.1 While Loops • Use while loops to repeat code until the user chooses to stop • Create loops that are governed by a single boolean control variable • Use the following techniques: Force Correct Input, Nested Loops, Player Turns, True Until False **Lesson 3.2: Controlling Loops** • Use break to exit a loop early • Use continue to skip the remainder of a loop iteration **Lesson Overview:** Students will login to their Smart Tech Coders CS 201 Python accounts. Students will work though the Learning Management System (LMS) curriculum to learn Python. **Activity Library** *****If finish TechSmartCoders – Python Daily Lessons and Activity library, then go to: FreeCodeCamp and work on Front/Back End Web Stack and Certifications*****	**Academic Standards:** AZ_CTE SoftwareAppDesign TechStandards **STANDARD 1.0** APPLY PROBLEM-SOLVING AND CRITICAL THINKING SKILLS **Iterative/Loops** STANDARD 7.0 UTILIZE ITERATIVE STRUCTURES IN WRITING PROGRAMS 7.1 Identify various types of iteration structure (e.g., while, for, for-each, and recursion) 7.2 Identify how loops are controlled (variable conditions and exits) 7.3 Use the correct syntax for nested loops 7.4 Compute the values of variables involved with nested loops **STANDARD 12.0** DEVELOP A PROGRAM **STANDARD 13.0** TEST AND DEBUG TO VERIFY PROGRAM OPERATION **STANDARD 14.0** UTILIZE AND CREATE COMMUNITY RESOURCES **14.1 Use standard library functions**

Wednesday	Notes: 11/22/2023 Operators and Expressions in Python - Real Python A sequence of operands and operators, like a + b - 5, is called an **expression**. **Python** supports many operators for combining data objects into **expressions**. Compare other LMS's Harvard CS50x MS Visual Code Studio AI assistants Prompt Engineering AFE CS AP Principles Python Programmer Certification (PCEP)	**November 22-24:** **Thanksgiving Break** **District Closed**	**Academic Standards:** AZ_CTE SoftwareAppDesign TechStandards **STANDARD 1.0** APPLY PROBLEM-SOLVING AND CRITICAL THINKING SKILLS **Iterative/Loops** STANDARD 7.0 UTILIZE ITERATIVE STRUCTURES IN WRITING PROGRAMS 7.1 Identify various types of iteration structure (e.g., while, for, for-each, and recursion) 7.2 Identify how loops are controlled (variable conditions and exits) 7.3 Use the correct syntax for nested loops 7.4 Compute the values of variables involved with nested loops **STANDARD 12.0** DEVELOP A PROGRAM **STANDARD 13.0** TEST AND DEBUG TO VERIFY PROGRAM OPERATION **STANDARD 14.0** UTILIZE AND CREATE COMMUNITY RESOURCES 14.1 Use standard library functions

Thursday	Notes: 11/23/2023 <u>Operators and Expressions in Python - Real Python</u> A sequence of operands and operators, like a + b - 5, is called an **expression**. **Python** supports many operators for combining data objects into **expressions**. Compare other LMS's Harvard CS50x MS Visual Code Studio AI assistants Prompt Engineering AFE CS AP Principles Python Programmer Certification (PCEP)	# November 22-24: # Thanksgiving Break **District Closed**	**Academic Standards:** AZ_CTE SoftwareAppDesign TechStandards **STANDARD 1.0** APPLY PROBLEM-SOLVING AND CRITICAL THINKING SKILLS **<u>Iterative/Loops</u>** STANDARD 7.0 UTILIZE ITERATIVE STRUCTURES IN WRITING PROGRAMS 7.1 Identify various types of iteration structure (e.g., while, for, for-each, and recursion) 7.2 Identify how loops are controlled (variable conditions and exits) 7.3 Use the correct syntax for nested loops 7.4 Compute the values of variables involved with nested loops **STANDARD 12.0** DEVELOP A PROGRAM **STANDARD 13.0** TEST AND DEBUG TO VERIFY PROGRAM OPERATION **STANDARD 14.0** UTILIZE AND CREATE COMMUNITY RESOURCES **14.1 Use standard library functions**

Friday	Notes: 11/24/2023 <u>Operators and Expressions in Python - Real Python</u> A sequence of operands and operators, like a + b - 5, is called an **expression**. **Python** supports many operators for combining data objects into **expressions**. Compare other LMS's Harvard CS50x MS Visual Code Studio AI assistants Prompt Engineering <u>AFE CS AP Principles</u> Python Programmer Certification (PCEP)	# November 22-24: # Thanksgiving Break **District Closed**	**Academic Standards:** AZ_CTE SoftwareAppDesign TechStandards **STANDARD 1.0** APPLY PROBLEM-SOLVING AND CRITICAL THINKING SKILLS **<u>Iterative/Loops</u>** STANDARD 7.0 UTILIZE ITERATIVE STRUCTURES IN WRITING PROGRAMS 7.1 Identify various types of iteration structure (e.g., while, for, for-each, and recursion) 7.2 Identify how loops are controlled (variable conditions and exits) 7.3 Use the correct syntax for nested loops 7.4 Compute the values of variables involved with nested loops **STANDARD 12.0** DEVELOP A PROGRAM **STANDARD 13.0** TEST AND DEBUG TO VERIFY PROGRAM OPERATION **STANDARD 14.0** UTILIZE AND CREATE COMMUNITY RESOURCES 14.1 Use standard library functions