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Unit Plan: Introduction to Python
Topic of the Lesson: Conditionals (part 2)
Grade and Content: 10th - 12th / CSP
Date: Fall 2022

Learning Objectives:

- Students will learn to write chained conditionals in Python.
- Students will learn to write nested conditionals in Python.

NYS standards:

- **9-12.CT.9:** Systematically test and refine programs using a range of test cases, based on anticipating common errors and user behavior.

Content-specific vocabulary:

- Chained conditional
- Nested conditional

Materials/Resources:

- Computers
- Smartboard
- Slides
- Python
- Replit
- Lab
- Textbook: https://books.trinket.io/pfe/index.html

Assessments:

- Programming log
- Lab completion

Warm-up (10 minutes):

- The teacher will show to the students the following table (available on the slides) and indicate that the table contains names of basketball players, their teams and state.

Player	**State**	**Team**
Quentin Grimes	New York	New York Knicks
Kevin Durant	New York	Brooklyn Nets
Stephen Curry	California	Golden State Warriors
Reggie Jackson	California	Los Angeles Clippers
LeBron James	California	Los Angeles Lakers

- The teacher will ask students to work in pairs and think on how they would write a condition(s) including the player name and the state to get the team. (5 minutes)
- The teacher will ask students for volunteers to explain their ideas on how they will do it, and ask other students to add on ideas or suggestions.
- The teacher guides the discussion to introduce the concepts of chained and nested conditionals**.**

Activity / Sequence of Lesson (10 minutes lesson, 20 minutes lab):

- The teacher will explain what is a chained conditional, and will demonstrate how to write it in Python (live coding).

```
if x < y:
    print('x is less than y')
elif x > y:
    print('x is greater than y')
else:
     print('x and y are equal')
```

- The teacher will explain what is a nested conditional, and will demonstrate how to write it in Python (live coding).

```
if x == y:
    print('x and y are equal')
else:
    if x < y:
        print('x is less than y')
    else:
         print('x is greater than y')
```

- The teacher will ask students to work with a partner (pair programming) on the “03_LAB_Conditionals_2”.

- The teacher will walk around the classroom to observe students’ performance and assist with questions or problems about the lab.

Summary / Next Steps / Exit Slip (5 minutes):

- The teacher will ask students to complete their lab as homework if they still need to finish it.

- The teacher will ask students to complete their “Log Programming”.