From Scripting to Systems: Python and C Comprehensive

Introduction to Python Programming

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Instructions

- Complete the following exercises to the best of your ability.

- Please write your code clearly and comment on what each part of the code does. (Documentation counts for points)

- Submit all your scripts as `.py` files.

Exercise 1: Variables and Types

1. Create variables to store your name, age, and favorite color. Use appropriate data types. (Extra points for using type hints on newer versions of python)

2. Print a sentence using these variables that follows this format:
   `"My name is [Your Name], I am [age] years old, and my favorite color is [color]."`

Exercise 2: Basic Operations

1. Calculate the area of a circle with a radius of 5 units. (Use $\pi = 3.14159$) Print the answer out.

2. Create an array with the prices of three items: \$4.50, \$9.99, and \$2.35, then calculate the total price and print it.

3. If you divide a cake into 7 equal parts, how much cake does each person get if there are 3 people? Make sure that each person does not receive part of a slice. Display the results, if any slices are left display that result as well.

Exercise 3: Strings and Concatenation

1. Create two string variables: one with your first name and the other with your last name.

2. Concatenate them into one string, separated by a space, and print the result.

3. Using this combined string, print it in all uppercase letters.

Exercise 4: Lists

1. Create a list containing the numbers 1 through 10.

2. Print the first, fifth, and last item in the list.

3. Append the number 11 to the list and print the entire list.

Submission

Please make sure all your scripts are runnable and include comments to explain your logic.