Python Programming Exercises

Complete Exercise Collection

Exercise 1: Variables and Data Types

```python
# Create variables of different data types
name = "Your Name"
age = 25
height = 5.9
is_student = True
# Print the variables
print("Name:", name)
print("Age:", age)
print("Height:", height)
print("Is Student:", is_student)
# Perform basic operations
birth_year = 2024 - age
print("Birth Year:", birth_year)
# String manipulation
greeting = "Hello, " + name + "!"
print(greeting)
# List operations
fruits = ["apple", "banana", "orange"]
fruits.append("grape")
print("Fruits:", fruits)
```

Exercise 2: Control Flow

```python
# If-else statements
temperature = 25
if temperature > 30:
    print("It's hot outside!")
elif temperature > 20:
    print("The weather is pleasant.")
else:
    print("It's cold outside!")
# For loops
numbers = [1, 2, 3, 4, 5]
sum_numbers = 0
for num in numbers:
    sum_numbers += num
    print(f"Current number: {num}, Running total: {sum_numbers}")
print(f"Final sum: {sum_numbers}")
# While loop
counter = 5
while counter > 0:
    print(f"Countdown: {counter}")
    counter -= 1
print("Blast off!")
```