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# Elizabeth Rozzelle
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# P4HW1
# Brief description of program:
# This program asks the user how many grades they want to enter, collects them using a loop, checks if each grade is valid (between 0-100),
# stores them in a list, then removes the lowest grade, calculates the average of the remaining grades, and displays the letter grade for that
# average.

# Pseudocode:
# 1. Ask user how many grades they want to enter
# 2. Use a loop to collect valid grades (between 0-100)
# 3. Store grades in a list
# 4. Remove the lowest grade
# 5. Calculate the average of the remaining grades
# 6. Determine the letter grade (A-F)
# 7. Display:
#     - lowest grade
#     - modified grade list
#     - average
#     - letter grade

# Step 1: Ask user how many grades they want to enter
num_grades = int(input("How many grades would you like to enter? "))

# Step 2: Create an empty list for the grades
grades = []

# Step 3: Loop to collect each grade
grade_number = 1
while len(grades) < num_grades:
    try:
        grade = float(input(f"Enter grade #{grade_number}: "))
        if grade < 0 or grade > 100:
            print("Invalid input! Grade must be between 0 and 100.")
        else:
            grades.append(grade)
            grade_number += 1
    except ValueError:
        print("Invalid input! Please enter a number.")

# Step 4: Remove the lowest grade
lowest = min(grades)
grades.remove(lowest)

# Step 5: Calculate average of remaining grades
average = sum(grades) / len(grades)

# Step 6: Determine letter grade
if average >= 90:
    letter = "A"
elif average >= 80:
    letter = "B"
elif average >= 70:
    letter = "C"
elif average >= 60:
    letter = "D"
else:
    letter = "F"

# Step 7: Display results
print("\n-----Results-----")
print(f"Lowest Grade      : {lowest}")
print(f"Modified Grade List: {grades}")
print(f"Average           : {average:.2f}")
print(f"Letter Grade       : {letter}")
print("-----")

# Pause program before it closes (if needed)
input("\nPress Enter to exit...")

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