**Nested Loop – Test Scores**

Create a program a teacher could use to get the average of each student’s test scores. The statement in line 3 asks the user for the number of students, and the statement in line 5 asks the user for the number of test scores per student. The for loop that begins in line 7 iterates once for each student. The nested inner loop, in lines 13 through 17, iterates once for each test score.

# This program averages test scores. It asks the user for the number of students and number of scores per student

# Get number of students

num\_students = int(input('How many students do you have? '))

# Get the number of test scores per student

num\_test\_scores = int(input('How many test scores per student? '))

# Determine each student’s average test score

for student in range(num\_students):

 # Initialize an accumulator for test scores

 total = 0.0

 # Get a student’s test scores

 print('Student number', student + 1)

 print('---------------------------------------------')

 for test\_num in range(num\_test\_scores):

 print('Test number', test\_num + 1, end=' ')

 score = float(input(': '))

 #add the score to accumulator

 total += score

 # Calculate the average test score for this student

 average = total / num\_test\_scores

 # Display the average

 print('The average for student number', student + 1, 'is: ', average)

 print()

**Program modified to get total average for all tests:**

# This program averages test scores. It asks the user for the number of students and number of scores per student

# Get number of students

total\_average = 0.0

num\_students = int(input('How many students do you have? '))

# Get the number of test scores per student

num\_test\_scores = int(input('How many test scores per student? '))

# Determine each student’s average test score

for student in range(num\_students):

 # Initialize an accumulator for test scores

 total = 0.0

 # Get a student’s test scores

 print('Student number', student + 1)

 print('---------------------------------------------')

 for test\_num in range(num\_test\_scores):

 print('Test number', test\_num + 1, end=' ')

 score = float(input(': '))

 #add the score to accumulator

 total += score

 # Calculate the average test scorefor this student

 average = total / num\_test\_scores

 total\_average = average + total\_average

 # Display the average

 print('The average for student number', student + 1, 'is: ', average)

 print()

print('The average for all tests is: ', total\_average/num\_students)