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Problem: Write a program to compute the price of a theater ticket

1. **Pseudocode**

```
Initialize list of five students

Initialize variables for student grades to compute

Print opening statement

Iterate through list of students
    Prompt user to input grade for each student as it loops
    Add each grade to a new list
Take the student grade total and divide by the number of
students for the average

Convert average to string and print the result to the screen
```

2. **Actual code**

```
#Initialize list of five students
studentsList = ["Sandra Dee",
            "Johnny Appleseed",
            "James Kirk",
            "Quentin Florentino",
            "Ronald Weasley"]

#Initialize variables for student grades to compute
gradeList = []
studentGradeTotal = 0
studentGradeAvg = 0

#Print opening statement
print("Please input the grades for the following students")

#Iterate through list of students
for student in studentsList:
    print("Enter the grade for",student)
    #Prompt user to input grade for each student as it loops
    studentGrade = float(input())
    #Add each grade to a new list
    gradeList.append(studentGrade)
    studentGradeTotal += studentGrade
```

```
#Take the student grade total and divide by the number of students for the
average
studentGradeAvg = round((studentGradeTotal / 5),1)

#Convert average to string and print the result to the screen
print("The average grade for all five students is " +
    str(studentGradeAvg) + "%, and the \n" +
    "highest grade was " + str(max(gradeList)) + "%.")
```

3. **Test Cases**
    a. Test Case 1
        i. Input: Grades = 85.5, 98, 79.4, 94, 88
        ii. Expected output: 88.98
        iii. Actual output: (rounded to nearest tenth)

```
Please input the grades for the following students
Enter the grade for Sandra Dee
85.5
Enter the grade for Johnny Appleseed
98
Enter the grade for James Kirk
79.4
Enter the grade for Quentin Florentino
94
Enter the grade for Ronald Weasley
88
The average grade for all five students is 89.0%, and the
highest grade was 98.0%.
>>>
```

b. Test Case 2
    i. Input: Grades = 77.6, 83.7, 95, 100, 68
    ii. Expected output: 84.86
    iii. Actual output: (rounded to nearest tenth)

```
Please input the grades for the following students
Enter the grade for Sandra Dee
77.6
Enter the grade for Johnny Appleseed
83.7
Enter the grade for James Kirk
95
Enter the grade for Quentin Florentino
100
Enter the grade for Ronald Weasley
68
The average grade for all five students is 84.9%, and the
highest grade was 100.0%.
>>>
```

c. Test Case 3
    i. Input: Grades = 79, 85, 98, 97, 94
    ii. Expected output: 90.6
    iii. Actual output: (rounded to nearest tenth)

```
Please input the grades for the following students
Enter the grade for Sandra Dee
79
Enter the grade for Johnny Appleseed
85
Enter the grade for James Kirk
98
Enter the grade for Quentin Florentino
97
Enter the grade for Ronald Weasley
94
The average grade for all five students is 90.6%, and the
highest grade was 98.0%.
>>>
```