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Script started on 2023-09-30 17:12:54-05:00 [TERM="xterm-256color" TTY="/dev/pts/0" COLUMNS="263" LINES="56"]
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ pwd
[?2004l
/home/jovyan/OLA
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ ls
[?2004l
Ch2_OLA.log  Ch2_OLA.pdf  OLA1.py  ola2.log  ola2.pdf  ola3.log  ola3.py  Tax.py
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ cat -n ola3.py
[?2004l
     1  #Tyler Sabin
     2  #Section 006
     3  #September 30, 2023
     4  #This program will take an input of amount of students, names, and grades to calculate each student's Grade as a
letter, and print out high/low grades of the class and the class average
     5  #The purpose of this assignment is to have us students become comfortable working with while loops and more complex
algorithms
     6
     7  #Get the input for the amount of students
     8  studentCount = int(input("Enter the number of students in the class: "))
     9  #Intialize the variables so we can store certain values (low/high names and scores, amount failed, and total grades
combined so we can calculate the avg
    10  highestGradeName = ""
    11  highestGrade = 0
    12  lowestGradeName = ""
    13  lowestGrade = 100
    14  failedGrade = 0
    15  gradeSum = 0
    16
    17  #Intialize the count for our while loop
    18  count = 1
    19
    20  #Our while loop will continue until our count is no longer less than, or equal to the number of students
    21
    22  while count <= studentCount:
    23      studentName = input("Enter student name: ")
    24      studentGrade = int(input("Enter student score (0-100): "))
    25
    26      #This if statement will check to see if the grade entered is between the range given, if so, it will assign the
correct grade in the print statement
    27
    28      if studentGrade >= 90 and studentGrade <= 100:
    29          print(f'Grade for {studentName}: A')
    30
    31          #This if statement will check to see if the grade entered is higher than the highest score stored
    32
    33          if studentGrade > highestGrade:
    34
    35              #If so, the students name will be be stored along with their grade in the assigned variables initialized
at the beggining of our program
    36
    37              highestGrade = studentGrade
    38              highestGradeName = studentName
    39              gradeSum += studentGrade
    40              count += 1
    41          else:
    42
    43              #If the grade is not higher, it will check to see if it is lower than the lowest score and apply the same
steps as above
    44
    45              if studentGrade < lowestGrade:
    46                  lowestGrade = studentGrade
    47                  lowestGradeName = studentName
    48                  gradeSum += studentGrade
    49                  count += 1
    50              else:
    51
    52                  #If the grade is not higher, nor lower, it will add the grade to the grade sum, and add 1 to our
count
    53
    54                  gradeSum += studentGrade
    55                  count += 1
    56      else:
    57
    58          #We will continue to iterate through the rest of the if's and else's until the proper section correlates with
the student's grade
    59
    60          if studentGrade >= 80 and studentGrade < 90:
    61              print(f'Grade for {studentName}: B')
    62              if studentGrade > highestGrade:
    63                  highestGrade = studentGrade
    64                  highestGradeName = studentName
    65                  gradeSum += studentGrade
    66                  count += 1
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            else:
                if studentGrade < lowestGrade:
                    lowestGrade = studentGrade
                    lowestGradeName = studentName
                    gradeSum += studentGrade
                    count += 1
                else:
                    gradeSum += studentGrade
                    count += 1
        else:
            if studentGrade >= 70 and studentGrade < 80:
                print(f'Grade for {studentName}: C')
                if studentGrade > highestGrade:
                    highestGrade = studentGrade
                    highestGradeName = studentName
                    gradeSum += studentGrade
                    count += 1
                else:
                    if studentGrade < lowestGrade:
                        lowestGrade = studentGrade
                        lowestGradeName = studentName
                        gradeSum += studentGrade
                        count += 1
                    else:
                        gradeSum += studentGrade
                        count += 1
            else:
                if studentGrade >= 60 and studentGrade < 70:
                    print(f'Grade for {studentName}: D')
                    if studentGrade > highestGrade:
                        highestGrade = studentGrade
                        highestGradeName = studentName
                        gradeSum += studentGrade
                        count += 1
                    else:
                        if studentGrade < lowestGrade:
                            lowestGrade = studentGrade
                            lowestGradeName = studentName
                            gradeSum += studentGrade
                            count += 1
                        else:
                            gradeSum += studentGrade
                            count += 1
                else:

                    #Here, we now know that the student's grade must be an F, we will still check to see if the
student has the highest or lowest grade because it is possible that all students have F's

                    print(f'Grade for {studentName}: F')
                    if studentGrade > highestGrade:
                        highestGrade = studentGrade
                        highestGradeName = studentName
                        failedGrade += 1
                        gradeSum += studentGrade
                        count += 1
                    else:
                        if studentGrade < lowestGrade:
                            lowestGrade = studentGrade
                            lowestGradeName = studentName
                            failedGrade += 1
                            gradeSum += studentGrade
                            count += 1
                        else:

                            #if the student does not have the highest grade or lowest grade, we must add one to our
failed student counter

                            failedGrade += 1
                            gradeSum += studentGrade
                            count += 1


#Calculate the average

classAvg = (gradeSum / studentCount)

#Print the stats out

print("\nClass Statistics:")
print(f'Class Average: {classAvg:.2f}')
print(f'Highest Score: {highestGradeName} ({highestGrade})')
print(f'Lowest Score: {lowestGradeName} ({lowestGrade})')
print(f'Number of Students Who Failed: {failedGrade}')[?2004h(base) ]0;jovyan@jupyter-tes4j:
```

```
~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ python3.10 ola3.py
[?2004l
Enter the number of students in the class: 4
Enter student name: Sam
Enter student score (0-100): 88
Grade for Sam: B
Enter student name: Tim
Enter student score (0-100): 77
Grade for Tim: C
Enter student name: Al
Enter student score (0-100): 99
Grade for Al: A
Enter student name: Ali
Enter student score (0-100): 55
Grade for Ali: F

Class Statistics:
Class Average: 79.75
Highest Score: Al (99)
Lowest Score: Ali (55)
Number of Students Who Failed: 1
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ exit
[?2004l
exit

Script done on 2023-09-30 17:13:42-05:00 [COMMAND_EXIT_CODE="0"]
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