SouthWest University

Lab report

Couse name Principle of programming

Semester 2021 - 2022 - 1

Grade 2021 Class 34

Name Cai Qianzhe Student No.222021321102065

Tutor Li Ya

School of Computer and Information Science

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| Lab 2 | | | **Practicing on File.** | | | | |
| Issue Date | | 2020年12月22日 | | | experimental types | □validation experiment,  □comprehensive experiment  ☑design experiment | |
| Goal  • You will practice the reading, writing, and printing of file.  Assignment  Given a csv file(score.csv) which contain scores of some students(see figure 1).    Figure 1  Write a program based on the sample code to   * calculate the total and average score of all students, average score of each subject and write the results into a new score file(newscore.csv) as in the following figure:     Write another program to provide an inquiry function which can prompt user to enter student’s name, and then prints the results of the query. | | | | | | | |
| * Experimental contents and process   The experiment requires writing a program to calculate student grades and a query for student grades. In the process of writing the program, I was not familiar with some csv file operation methods. I solved these problems by consulting the document, and then successfully wrote the program. | | | | | | | |
| * Screen shots of the Python IDLE showing the output results of running your Lab code. | | | | | | | |
| * Lab Code   ***# Program 1***  """ 求总成绩和平均成绩后写入文件 """  import csv  """ 读入并储存文件到list """  scoreFile = open("score.csv","r",encoding='utf-8-sig')  line = csv.reader(scoreFile,delimiter=',')  perRow=[]  for row in line:  perRow.append(row)  scoreFile.close()  """ 求每个人的总成绩和平均 """  for i in range(1,4) :  sum = 0  for j in range(1,4):  sum += int(perRow[i][j])  perRow[i][4] = str(sum) #第i个人的总成绩  perRow[i][5] = str(sum/3) #第i个人的平均成绩  """ 求成绩的平均 """  sum = [0.0]\*6 #用于记录每一列的和  for i in range(1,4) :  for j in range(1,6):  sum[j] += float(perRow[i][j])  for i in range(1,6):  perRow[4][i] = str(sum[i]/3)  """ 将结果写入文件 """  scoreFile = open("score.csv","w",encoding="utf-8-sig",newline="")  for i in range(5):  csv.writer(scoreFile).writerow(perRow[i])  scoreFile.close()  ***# Program 2***  """ 查询学生成绩 """  import csv  """ 读入文件到list """  scoreFile = open("score.csv","r",encoding="utf-8-sig")  line = csv.reader(scoreFile,delimiter=',')  perRow = []  for row in line:  perRow.append(row)  scoreFile.close()  print(perRow)  """ 查找学生 """  name = input("请输入你想查询的学生姓名：")  f = 1  for i in range(1,4) :  if name==perRow[i][0] :  print("作业1 "+perRow[i][1]+" 作业2 "+perRow[i][2]+" 期末考试 "+perRow[i][3]+" 总成绩 "+perRow[i][4])  f = 0  if f :  print("此人不存在!") | | | | | | | |
| * Experimental summary/ Analysis   In this experiment, I am more familiar with the operation of csv files. I have a deeper understanding of list and method. Meanwhile, I recognized the usefulness of python programs. Python can handle many file formats, and these processed files can also be viewed and edited with other software, such as Excel and Notepad. | | | | | | | |
|  | Criteria | | | | | | scale |
| Goal | | | | | | A B C D E |
| Process | | | | | |
| Design | | | | | |
| Algorithm | | | | | |
| Code | | | | | |
| Data/Results | | | | | |
| summary | | | | | |
| written | | | | | |
| Score | | | : | | | |
| * Lab Evaluation Criteria   A: This lab is exceptional, working and meeting all of the specifications. The code is exceptionally well organized and very easy to follow. The code could be reused as a whole or each routine could be reused. The documentation is well written and clearly explains what the code is accomplishing and how. The program was delivered on time. The code is extremely efficient without sacrificing readability and understanding.  B: This lab is very good-- works and produces the correct results and displays them correctly. It also meets most of the other specifications. The code is fairly easy to read. Most of the code could be reused in other programs. The documentation consists of embedded comment and some simple header documentation that is somewhat useful in understanding the code. The program was delivered within a week of the due date. The code is fairly efficient without sacrificing readability and understanding.  C: This lab is adequate, with only minor deficiencies. The program produces correct results but does not display them correctly. The code is readable only by someone who knows what it is supposed to be doing. Some parts of the code could be reused in other programs. The documentation is simply comments embedded in the code with some simple header comments separating routines. The code was within 2 weeks of the due date. The code is brute force and unnecessarily long.  D: This lab shows some effort but has at least one major deficiency. The program is producing incorrect results. The code is poorly organized and very difficult to read. The code is not organized for reusability. The documentation is simply comments embedded in the code and does not help the reader understand the code. The code was more than 2 weeks overdue. The code is huge and appears to be patched together.  E: This lab is poorly written and shows very little effort or understanding. | | | | | | | |