

# Quantitative Evaluation of Python Experimental Results Based on C Language Algorithm

Dan Meng, Qiyue Gao, Shiyao Zhang, Shangyi Liu, Caixia Wang, Hongyan Sun

University of Science and Technology Liaoning, China

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**Abstract:** This paper uses computer C language to quantitatively evaluate the Python experimental results in college. In view of the problems, the concrete implementation measures are put forward.

**Keywords:** C language algorithm, Quantification, Python experimental results.

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## 1. Introduction

Python experimental achievement evaluation is an important link in experimental teaching, which runs through the whole process of experimental teaching. There are many ways to assess students' experimental results, but no single assessment method can be reasonable and perfect. Compared with theoretical teaching, it is more complicated. However, according to the multi-factor and multi-variable characteristics of students' experimental results, the flexible application of C language data algorithm to quantify students' Python experimental results can reflect students' experimental level scientifically and reasonably. In recent years, many colleges and universities have constantly revised and improved the evaluation methods of experimental results, and the Python Experimental Center of Hohai University has also improved the evaluation methods of experimental results by drawing lessons from the practical experience of other brothers and universities. Students' experimental results are comprehensively evaluated through the combination of their usual grades and those who haven't taken the final exam, but the emphasis is on the assessment of their usual grades. The usual grades account for 70% of the total grade, and the untested grades account for 30% of the total grade. At the end of the semester, the usual grades and test scores of all previous experimental classes will be calculated according to the proportion statistics, and the total grade and grade of this semester will be finally determined. The overall rating is divided into five grades: excellent, good, fair, passing and failing.

## 2. Usual Grades and Theoretical Examinations

The quantitative evaluation of Python experimental results mainly starts with the teaching management and content, quantizes each teaching content into a number of specific assessment items, and evaluates students' experimental results according to each assessment item.

Usually, the results mainly include error theory homework, preview of experimental class, practical operation and completion of experimental report. A total of 10 major questions about error theory assignments are selected and adjusted, and the minimum score is 0.5 according to the 100-point system standard. Asking questions in class is an effective way to check students' preview. The examination process of experimental conditions is complex and difficult,

which should reflect the independence, correctness and timeliness of hands-on operation. The scoring standard for writing the experimental report after class focuses on whether the narrative principle is concise, whether the data collection and processing are reasonable, whether the calculation results are correct, etc. The usual experimental scores are 95 (5), 90 (5-), 85 (4+), 80 (4-), 75 (4-), 70 (3+), 65 (3) and 60 (3-) on a five-point scale. Usually, the grade is 70% of the total grade.

Generally, the theoretical examination is conducted at the end of the semester, including error analysis, effective digital calculation, data processing, drawing and instrument operation, etc. The examination questions called out from the Python experiment intelligent question bank in the university adopt the 100-point scoring standard with a full score of 100 points and a minimum score of 0.5 points.

## 3. Quantization Problems and C Language Algorithm Countermeasures

In the usual performance evaluation, Python experimental theoretical homework is calculated according to the percentile scoring standard. Similarly, the final theoretical exam (paper written test) is quantified by the score, and each question is still scored with the percentile scoring system with the full score of 100 points. However, the assessment of the usual experimental class has its own particularity, including three links, such as preview, operation and report. There is a score width between each link, and it is difficult to fill it with refined scores. Therefore, the assessment results of the usual experimental class show a ladder file. At this time, the students' experimental results should be assessed on a 5-point scale.

The problem lies in how to coordinate the unity of opposites between theoretical homework, test scores and usual experimental class scores (that is, the 100-point system and the 5-point system) and establish a consistent statistical calculation standard. If the students' scores on the 100-point scale do not exceed 10 points, the gap is generally within a similar grade according to the grade system. This may relieve students' psychological pressure and give them psychological comfort. However, when the percentage system is changed to the grade system, most students' achievements are bound to be indistinguishable in one grade, and the efforts and achievements made by teachers cannot be reflected. The author thinks that the statistical calculation of students' final grade in Python experimental course should adhere to the

percentage system. The 5-point grade of the usual experimental class is converted against the 100-point grade, and is uniformly weighted with other 100-point grade grades. The computer C language algorithm is used to program and design a quantitative evaluation method for the final general evaluation grade of Python experimental students in universities. According to the assessment requirements of the academic affairs office of the school for students' final grade, the output results are the usual grade, examination grade and grade (grade).

The following gives the C language algorithm source program [4] of students' usual grades, final exam grades and overall evaluation grades for readers' reference.

```
#include "stdio.h"
main()
{intn m i j;
//m is the total number of students, and n is the
number of experimental items.
floataver assignment exper normal exam;
charrank;
floatexpe[100] [4];
printf( " % s\n " □ " Pleaseenterthetotal
numberofstudents " );
scanf( " %d " &m);
printf( " % s\n " " Pleaseenterthetotal
numberofexperiments " );
scanf( " %d " &n);
for(i=1;i<=m;i++)
{printf( " Pleaseentertheassignment
pointof%d\n " i);
scanf( " %f " &assignment);
printf( " Pleaseentertheexperimets'
pointof%d\n " i);
normal=assignment;
for(j=1;j<=n;j++)
{scanf( " %f " &exper);
normal=exper+normal;
}
normal=normal/(n+1);
printf( " Pleaseentertheexampointof%d\n " i);
scanf( " %f " &exam);
expe[i-1] [2]=exam; //Exam results
expe[i-1] [1] =normal; //usual grades
expe[i-1] [0] =i; //Student serial number
}
printf("student'sPhysicalExperiment
Scores:\n");
printf( " %15s%16s%16s%16s\n " "
NUMBER " " NORMAL " " EXAM " "
GRADE " );
i=0;
j=0;
for(i=1;i<=m;i++)
{printf( " %13.2f%16.2f%17.2f "
expe[i-1] [0] expe[i-1] [1] expe[i-1][2]);
printf;
aver=expe[i-1] [1]*0.7+expe[i-1] [2]*0.3;
if(aver>=85)printf( " %14s\n " " Ex-ce " );
elseif(aver>=73) printf( " %14s\n " "

```

```
Good " );
elseif(aver>=68) printf( " %14s\n " "
Mid " );
elseif(aver>=60) printf( " %14s\n " " Pass " );
elseif(aver<60)printf("Fail"); //Final evaluation
}
}
Output result:
student'sPhysicalExperimentScores:
NUMBER NORMAL EXAM GRADE
1 83.50 91.00 Exce
2 85.00 89.50 Exce
3 84.50 88.00 Exce
4 81.20 90.50 Good
5 78.50 85.00 Good
6 73.00 76.33 Good
7 70.45 65.60 Midd
8 61.00 74.33 Pass
```

## 4. Conclusion

The design and application of this C language source program can reasonably and scientifically evaluate the students' experimental results and reflect the students' basic knowledge, experimental ability and innovative consciousness. Quantitative evaluation of Python experimental results is an important part of the experimental curriculum system. With the establishment of the overall goal of quality education, the evaluation method and the continuous improvement of the form will be further improved.

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