

SIT384 Cyber security analytics

Pass Task 3.1P: Process data from file

Task description:

You are given a student result data file (result_withoutTotal.csv). It has columns:

ID: student id

Ass1 ~ Ass4: assignment scores (out of 100); weight of ass1, ass2, ass3 and ass4 is 5%, 15%, 5%, and 15%, respectively.

Exam: examination score (out of 120); weight is 60%.

ID	Ass1	Ass2	Ass3	Ass4	Exam
1	89.1	50	85	88.9	65
2	95.1	82.5	90.5	94.5	52
3	74.3	54.4	63	63.9	31
4	89.8	81.3	82	90.4	37
5	91.3	98.8	92.5	95.9	79
...

(The above data is for demonstration purposes only. Please download the full version of result_withoutTotal.csv.)

Read students' result data from file result_withoutTotal.csv,

- Print average of ass1, ass2, ass3, ass4 and exam column, respectively.
- Print min of ass1, ass2, ass3, ass4 and exam column, respectively.
- Print max of ass1, ass2, ass3, ass4 and exam column, respectively.
- Select the students with the highest ass1, ass2, ass3, ass4 and exam, respectively, and print their information (ID, Ass1, Ass2, ..., Exam)

(Sample output as shown in the following figure is for demonstration purposes only.)

```
ass1 average: 79.08241758241758
ass1 min: 50.0
ass1 max: 99.1

ass2 average: 72.01978021978024
ass2 min: 43.8
ass2 max: 100.0

ass3 average: 71.76373626373626
ass3 min: 0.0
ass3 max: 98.0

ass4 average: 83.70549450549453
ass4 min: 0.0
ass4 max: 100.0

exam average: 57.24175824175824
exam min: 0
exam max: 106
```

```

student(s) with highest Ass1:
  Ass1  Ass2  Ass3  Ass4  Exam
ID
53  99.1  86.6  82.0  93.1    57

student(s) with highest Ass2:
  Ass1  Ass2  Ass3  Ass4  Exam
ID
11  96.6  100.0  98.0   97.3   102
50  93.6  100.0  97.0  100.0    90
84  93.6  100.0  96.0  100.0   106

student(s) with highest Ass3:
  Ass1  Ass2  Ass3  Ass4  Exam
ID
11  96.6  100.0  98.0   97.3   102
41  88.0   58.5  98.0   91.8    71

student(s) with highest Ass4:
  Ass1  Ass2  Ass3  Ass4  Exam
ID
34  94.4   97.5  80.0  100.0    90
35  92.7   76.8  84.0  100.0    55
50  93.6  100.0  97.0  100.0    90
84  93.6  100.0  96.0  100.0   106
88  96.0   97.6  65.0  100.0    76

student(s) with highest Exam:
  Ass1  Ass2  Ass3  Ass4  Exam
ID
84  93.6  100.0  96.0  100.0   106

```

Submission:

Submit the following files to OnTrack:

1. Your program source code (e.g. task3-1.py)
2. A screen shot of your program running

Check the following things before submitting:

1. Add proper comments to your code