

Lab Session	#6												
<ol style="list-style-type: none"> 1. Students could create java program using looping concepts, i.e. <code>for</code>, <code>while</code>, <code>do while</code>, to solve simple computational problems 2. Students could create java program using 1 dimensional array concepts to solve simple computational problems 													
To Do List (during the lab): <ol style="list-style-type: none"> 1. Give feedback (the answer) of Lab 5, show their mark 2. Completing online course: https://www.codechef.com/learn/BJ00LP05/problems/ARRYJ1 3. Completing online course: https://www.codechef.com/learn/BJ00LP06/problems/LOOPJ1 4. Completing the tasks below: 													
All Cohorts: Task 1 (Guided) : Create a java program to compute Cumulative Grade point average (CGPA) of a student. The transcript is already available in a file named transcript.csv ; The sample transcript file is shown by the following figure: <pre> 1 IS4518,Software Implementation,3,A 2 IS4519,IT Strategic Planning,3,BC 3 IS4620,Information Security,4,A 4 IS4623,Business Analytics,3,AB 5 IS4624,IT Investment Mangmt,3,AB 6 IS4627,IT Evaluation and Audit,4,A 7 IS4628,IT Ethics and Law,2,AB </pre> <p>Each line consists of information about code, course name, credits, and grade separated by comma respectively. The number of lines within the file could vary amongst students. Your program should be very flexible. The grade is A,AB,B,BC,C,D, or E only. To calculate the CGPA, each grade should be converted to its respective score as shown by the table below.</p> <table border="1"> <thead> <tr> <th>Grade</th><th>Score</th></tr> </thead> <tbody> <tr> <td>A</td><td>4</td></tr> <tr> <td>AB</td><td>3.5</td></tr> <tr> <td>B</td><td>3</td></tr> <tr> <td>BC</td><td>2.5</td></tr> <tr> <td>C</td><td>2</td></tr> </tbody> </table>		Grade	Score	A	4	AB	3.5	B	3	BC	2.5	C	2
Grade	Score												
A	4												
AB	3.5												
B	3												
BC	2.5												
C	2												

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D	1
E	0

A sample of input and its respective output is shown as follow:

```
Please input your Fullname      : Isoku Mung Iki
Please input your student id    : 1100254
```

Academic Report

Student ID.:1100254

Fullname:Isoku Mung Iki

No.	Code	Name	Credit	Grade	Score	W.Score
1	IS4518	Software Implementation	3	A	4.0	12.0
2	IS4519	IT Strategic Planning	3	BC	2.5	7.5
3	IS4620	Information Security	4	A	4.0	16.0
4	IS4623	Business Analytics	3	AB	3.5	10.5
5	IS4624	IT Investment Mangmt	3	AB	3.5	10.5
6	IS4627	IT Evaluation and Audit	4	A	4.0	16.0
7	IS4628	IT Ethics and Law	2	AB	3.5	7.0

CGPA :3.6136363636363638 (passed)

Task 2 (semi-guided):

Create a java program to determine whether an account in twitter is a famous account or not. A famous account is an account with a number of followers greater than **1000** and its followers greater than 10 times the number of accounts it follows.

The input is stored in a file namely **problem.txt**, and the output is **ORDINARY** or **FAMOUS**. An example of the file is:

```
1 5
2 100 1002
3 1000 500
4 300 1000000
5 1 50
6 200 3000
7
```

G R

If (R>1000 && R>10*G) FAMOUS

Else ORDINARY

The first line represents the number of accounts, the next lines are the number of following and the number of followers of each account separated by space for each account respectively.

The expected output of above sample input is:

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FAMOUS
ORDINARY
FAMOUS
ORDINARY
FAMOUS

Task 3 (unguided) :

Cohort A and B:

Given the following file (receipt.txt) as an input:

```
1 UV Protection Linen Blend Bucket Hat, 299000
2 Dry Pique Short Sleeve Polo Shirt, 299000
3 Washed Jersey Ankle Pants, 399000
4 AIRism Cotton IV Protection Crew Neck Shirt, 299000
5 Dry Color V Neck Short Sleeve Shirt, 99000
6 Smart Ankle Pants, 599000
7 Pleated Wide Pants, 599000
8 Ultra Stretch High Rise Denim Leggings Pants, 399000
9 Doraemon Sustainability Mode Toy, 299000
10 Gift Bag, 59000
11 UV Protection Hat, 299000
12 UV Protection Corduroy Hat, 299000
13 Utility Neck Pouch, 129000
14 Yusuke Hanai Pocketable Bag, 199000
15 Utility 2WAY Bag, 499000
```

Create a java program to generate the following receipt:

```
Receipt
Category Name | Count | Subtotal
Shirt | 3 | 697000.0
Pants | 4 | 1801200.0
Hat | 3 | 897000.0
Bag | 3 | 757000.0
Others | 2 | 428000.0
Total Item: 15
Total Price: 4580200.0
You Saved 194800.0 :)
```

Please note that:

1. You should categorize the items to five categories: Shirt, Pants, Hat, Bag, and others; the category is based on the last token of the items name
2. If the total price of Pants > **1000000**, you will get discount **Rp100000** (flat) plus another **5%** discount for items under pants category only
3. The number of bought items could be vary, so make your code as flexible as possible

Cohort C:

Pak Ahmad, a very rich farmer in Banyuwangi, has **N** friends. He will give each of his friends a couple of sheep, consisting of one male sheep and one female sheep. He wants to buy the sheep in the animal market, but he already has **F** female sheep. How many extra sheep Pak Ahmad has to buy to ensure he is able to give a couple of sheep to each of his N Friends? For example, if N= 2, F=4, then Pak Ahmad already has 4 female sheep, so he must buy 2 extra male sheep to form 2 couples of sheep.

Input :

The first line has a single character representing the number of problems. The next lines are N and F of each problem.

Output:

the minimum number of extra sheep Pak Ahmad has to buy ?

The input file is: **problemx.txt**

Example Input:

3

2 4 = (Jumlah kambing jantan+ jumlah kambing betina) = $N+(N-F) = 2+2-4 =$

6 0 = (Jumlah kambing jantan+ jumlah kambing betina) = $N+(N-F) = 6+6-0 =12$

4 3 = (Jumlah kambing jantan+ jumlah kambing betina) = $N+(N-F) = 4+(4-3)=4+1 =5$

Jika $F > N$ maka output = N

Else maka output = $N+N-F$

Expected Output:

2

12

5

Cohort D, E, F

The record of boxing competitions is recorded in a file named **boxingcompetition.txt**; shown by the following figure:

```
1 5
2 Alfa,91,flyweight
3 Joko,55,featherweight
4 Carla,79,flyweight
5 Eva,96,flyweight
6 Gary,76,featherweight
7 Beta,80,flyweight
8 Harry,90,featherweight
9 Irvin,81,featherweight
10 Dena,75,flyweight
11 Fera,67,featherweight
```

The first line of the file is an integer representing the total number of recorded boxing competitions for each category. Each of the following lines represents the name of the winner, the score, and the competition

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category separated by comma. Please note that there are two categories of boxing competition, i.e. **flyweight** and **featherweight**.

Create a java program to generate the top scorer of each category as shown by the following figure:

Top Scorer		
Category	Top Score	TopScorer

flyweight	96	Eva
featherweight	90	Harry

Please make your program flexible with different input files.

Submit your work through codeboard:

1. Cohort A: <https://codeboard.io/projects/380619>
2. Cohort B: <https://codeboard.io/projects/380623/>
3. Cohort C: <https://codeboard.io/projects/380624/>
4. Cohort D: <https://codeboard.io/projects/380625/>
5. Cohort E: <https://codeboard.io/projects/380626/>
6. Cohort F: <https://codeboard.io/projects/380627/>

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