Assignment 1

SUSTech plans to set a new restaurant on campus and now invites you to join us in the development of the "self-ordering system". Since you are new to programming, the tasks for you are relatively simple.The requirements you receive are as follows:

1. When using the system, the user is required to input user name and student id. If the student id is not 8-digit or the prefix number is not 115 to 119, the system will display the wrong id. If the student id is correct, the system will display: `XXX, welcome to SUSTECH Hot Pot Restaurant!`

Samples:

1. Pass parameters from the command line: `XXX 11910001` The console output: `XXX, welcome to SUSTECH Hot Pot Restaurant!`
2. Pass parameters from the command line: `XXX 1191001` The console output: `1191001` (We will be sure to pass you exactly 2 parameters separated by a space during the test)

```
PS C:\Assignment1\Assignment1> java A1Q1 XXX 11910001
XXX, welcome to SUSTECH Hot Pot Restaurant!
PS C:\Assignment1\Assignment1> java A1Q1 XXX 1191001
1191001
```

2. Calculate the waiting time of users from the begining to queue up to finding a seat. The beginning and end time will be passed in "`hh mm ss`" format. The three numbers are separated by spaces. Output is in "`xx` m `xx` s" format.

Sample: Read in using Scanner:

```
12 30 37
13 50 29
```

Output: `79m52s`

Read in using Scanner:

```
12 30 37
13 50 37
```

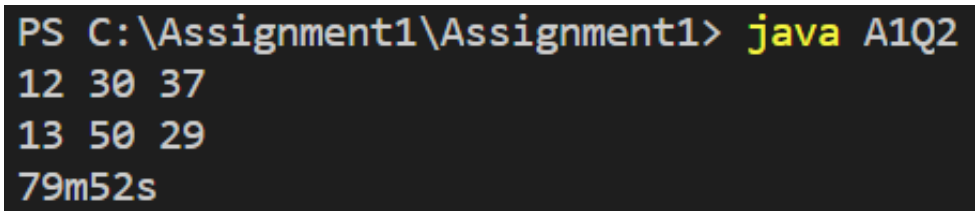
Output: `80m`

Read in using Scanner:

```
12 30 37
12 30 37
```

Output: `0s`

(The beginning and end time won't be across a day and the end time is not earlier than beginning time. If the minute and second both equal 0, then print "0s"; if one of them equals 0, then only print the other like "80m", "52s")



Warning:

Please not write `new Scanner` command in the loop when using Scanner in any questions, or the scores you get in that question will be zero!

Sample: Get n integers and print them. Wrong:

```
while(n-->0){
    Scanner scan = new Scanner(System.in);
    System.out.println(scan.nextInt());
}
```

Correct:

```
Scanner scan = new Scanner(System.in);
while(n-->0){
    System.out.println(scan.nextInt());
}
```

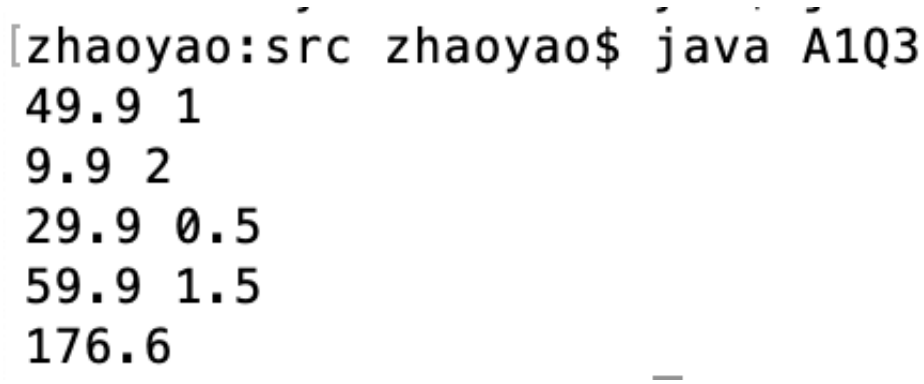
---

3. When a user begin to order dishes, calculate the total cost according to the order list. Ordering half piece of dish is allowed. The price of half piece is "`the price of one piece / 2 + 1`", and you should round the price only one decimal.

Sample: Read in using Scanner:

```
49.9 1
9.9 2
29.9 0.5
59.9 1.5
```

Output: `176.6`



Explanation:

1. In the running process, in the Windows system we use "Ctrl + Z" or "Ctrl + D"in the last loop ending, which means "EOF" （in the mac os, we use "Ctrl +d"） and tells the program we have input all the content. In the code, you should only check whether the Scanner can get more input. If you want to know more about EOF, you can look at this url: https://en.wikipedia.org/wiki/End-of-file If you cann't open above url, please look this: https://blog.csdn.net/henu1710252658/article/details/83040281

The following code can support our exiting way, then you can try it and check whether the while loop is stopped when inputing "Ctrl + Z" or "Ctrl +D".

```
Scanner in = new Scanner(System.in);
while(in.hasNext()){
      double price = in.nextDouble();
      ...
}
System.out.println("END");
```

2. Calculation Explain:

```
29.9 / 2 + 1 = 16.0
59.9 + (59.9 / 2 + 1) = 59.9 + 31 = 90.9
49.9 + 9.9 * 2 + 16 + 90.9 = 176.6
```

Warning:

Same as Question 2.

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4. Make a user vip system: Grade the user according to the number and cost of consumptions.

1. When the number of user consumptions is not less than `10` times and the cumulative amount is not less than `5000`, or a single amount is not less than `8000`, the user will be a `Diamond` VIP customer.
2. When the number of user consumptions is not less than `5` times and the cumulative amount is not less than `2000`, or a single amount is not less than `3000`, the user will be a `Gold` VIP customer.
3. When the number of user consumptions is not less than `2` times and the cumulative amount is not less than `800`, or a single amount is not less than `1000`, the user will be a `Silver` VIP customer.

Sample: Pass parameters from the command line: `1000 400 400 400` The console output: `Silver`

```
PS C:\Assignment1\Assignment1> java A1Q4 1000 400 400 400
Silver
```

---

5. Revise the prices of dishes. Due to a careless staff's bad work, the prices of some dishes are wrong. Now you are asked to revise the wrong prices. The prices whose unit's place is 2 or 4 are wrong and you should revise the unit's place from 2 to 6, from 4 to 9, such as revising 32.9 to 36.9, 44.9 to 49.9 and so on. You should output the prices after revised.

Sample:

Pass in parameters from the command line: `9.9 12.9 19.9 21.9 33.5 54.9`

The console output:

```
16.9 59.9
```

```
PS C:\Assignment1\Assignment1> java A1Q5 9.9 12.9 19.9 21.9 33.5 54.9
16.9 59.9
```

Tips: Using following statement can help to fetch the count of arguments.

```
    int length = args.length;
```

Submission of Assignment:

(1) You should submit all the source code files (with an extension **".java"**).

(2) The class name of each **".java"** file should be **A1Q1, A1Q2, ... , A1Q5** respectively to represent these five questions.

(3) You should submit all source code **directly** into the sakai system below, **do not compress** them into one folder. https://sakai.sustech.edu.cn/portal/site/c406ef0d-67ef-4172-b81c-b6e0474c1974/tool/0658d0c0-ec96-4bec-b06f-dde96d2155fc

(4) **No Chinese characters** are allowed to appear in your code.

(5) No **package** included.

(6) The arguments and the output must **strictly** follow the description of each question.

(7) The assignment should be submitted before the deadline**(Sep.29th 19:00pm). Late submissions within 24 hours after the deadline (even a few minutes) will incur a 50% penalty**, meaning that you can only get 50% of the score, which you could get if the assignment was submitted before the latest deadline.**Assignments submitted after the latest deadline will not be graded** (meaning your will get a zero for the assignment).

Wish you to enjoy coding!