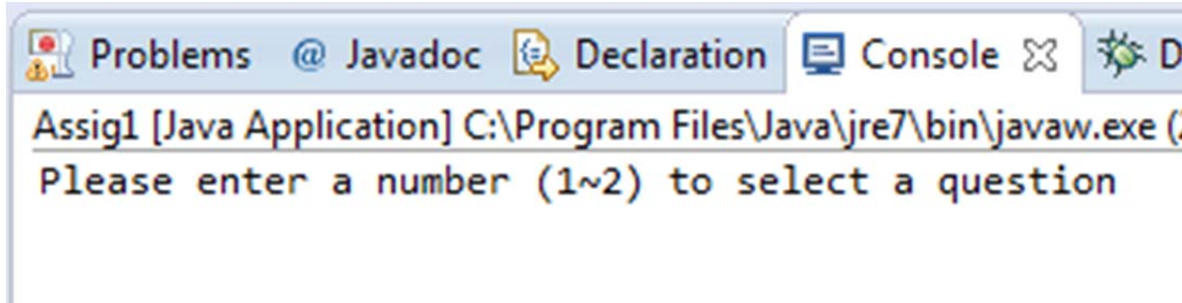


Laboratory Six

Activity 0: Preparation

1. Create a project called “lab6” under Eclipse;
2. Copy “lab6” into project;
3. Copy “questions” into project;
4. Copy “Student” into project; (optional)

Make sure your program can run correctly. An expected output of the UI is shown below.



Remarks:

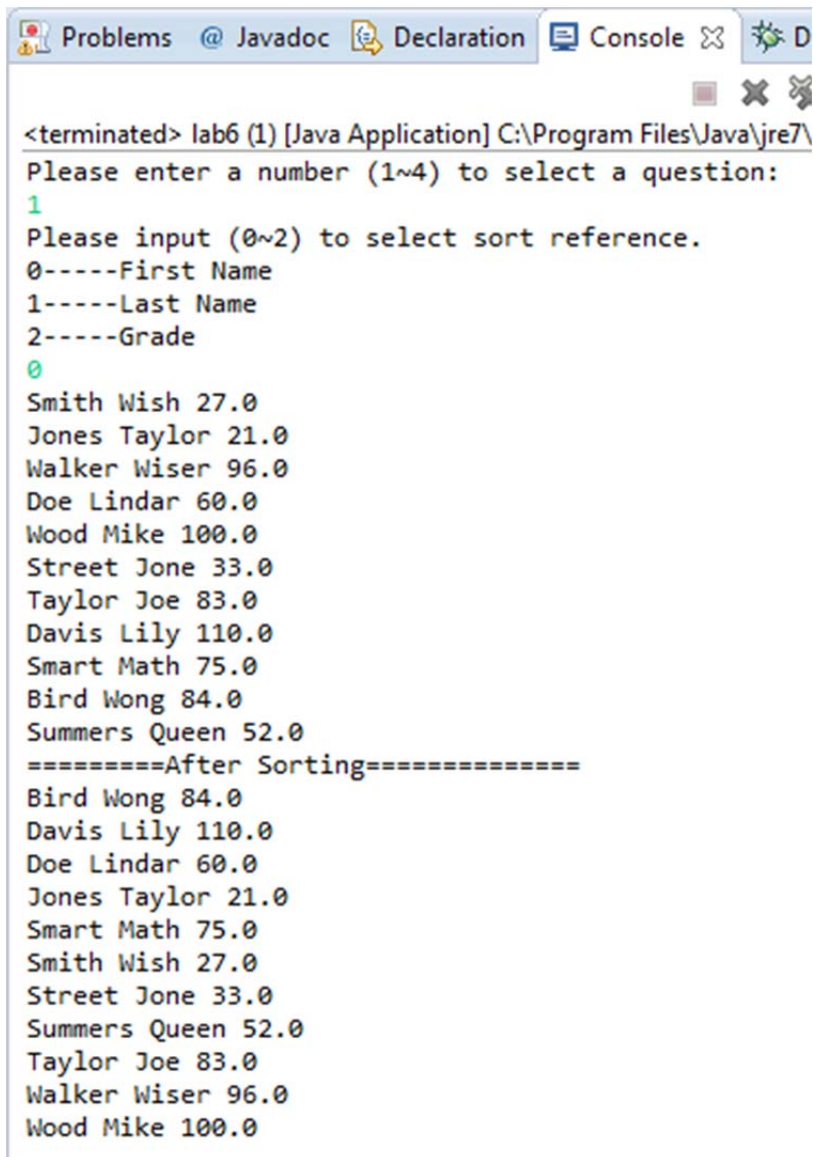
Student class is used to encapsulate first name, last name and grade, the corresponding comparison method is also ready. If you want to create your own object class by using *Comparable* interface, please feel free to create them and forget this class.

Activity 1: In Place Sorting (5 marks)

In *q1*, a code skeleton is ready. Now finish the remaining part to make it read data from a text file called “sorting.dat” contained in lab6 package. The format of “sorting.dat” consisted of first name, last name and grade.

In *questions.java*, a method called *iSort* is defined. Design an in-place sorting which use bubble sort to sort people based on first name, last name and grade respectively. Note user can select sort reference.

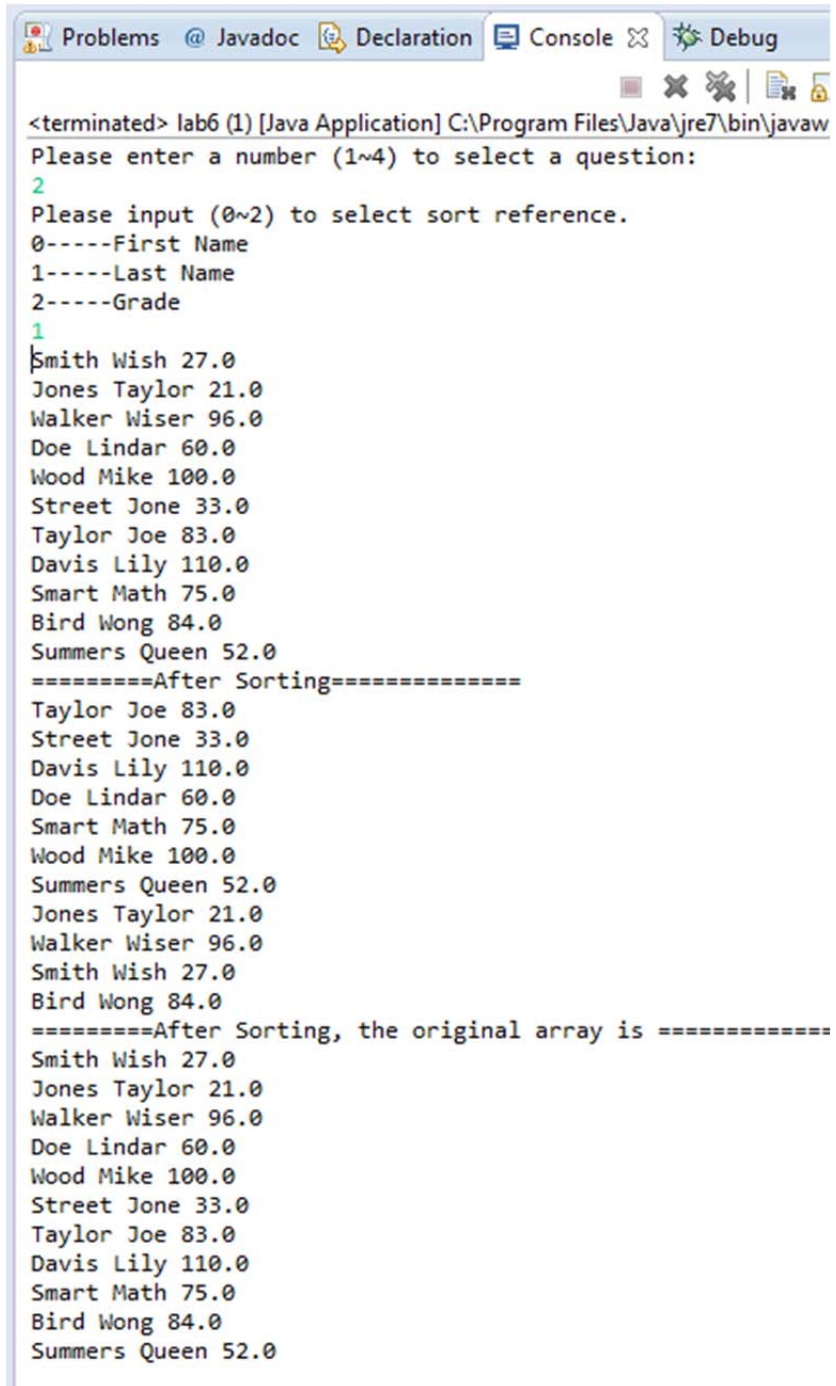
An expected output is shown below.



```
<terminated> lab6 (1) [Java Application] C:\Program Files\Java\jre7\
Please enter a number (1~4) to select a question:
1
Please input (0~2) to select sort reference.
0-----First Name
1-----Last Name
2-----Grade
0
Smith Wish 27.0
Jones Taylor 21.0
Walker Wiser 96.0
Doe Lindar 60.0
Wood Mike 100.0
Street Jone 33.0
Taylor Joe 83.0
Davis Lily 110.0
Smart Math 75.0
Bird Wong 84.0
Summers Queen 52.0
=====After Sorting=====
Bird Wong 84.0
Davis Lily 110.0
Doe Lindar 60.0
Jones Taylor 21.0
Smart Math 75.0
Smith Wish 27.0
Street Jone 33.0
Summers Queen 52.0
Taylor Joe 83.0
Walker Wiser 96.0
Wood Mike 100.0
```

Activity 2: Out of Place Sorting (5 marks)

In *q2*, similar to *q1*, finish the code which read data from a text file called “sorting.dat”. Also in *questions*, a method called *oSort* is defined; now finish it to perform an out of place sorting. An expected output is shown below.



```
<terminated> lab6 (1) [Java Application] C:\Program Files\Java\jre7\bin\javaw
Please enter a number (1~4) to select a question:
2
Please input (0~2) to select sort reference.
0-----First Name
1-----Last Name
2-----Grade
1
Smith Wish 27.0
Jones Taylor 21.0
Walker Wiser 96.0
Doe Lindar 60.0
Wood Mike 100.0
Street Jone 33.0
Taylor Joe 83.0
Davis Lily 110.0
Smart Math 75.0
Bird Wong 84.0
Summers Queen 52.0
=====After Sorting=====
Taylor Joe 83.0
Street Jone 33.0
Davis Lily 110.0
Doe Lindar 60.0
Smart Math 75.0
Wood Mike 100.0
Summers Queen 52.0
Jones Taylor 21.0
Walker Wiser 96.0
Smith Wish 27.0
Bird Wong 84.0
=====After Sorting, the original array is =====
Smith Wish 27.0
Jones Taylor 21.0
Walker Wiser 96.0
Doe Lindar 60.0
Wood Mike 100.0
Street Jone 33.0
Taylor Joe 83.0
Davis Lily 110.0
Smart Math 75.0
Bird Wong 84.0
Summers Queen 52.0
```

Remark: a method called “*PrintList*” is ready in *questions*, you can use it to display array content.

What need to be submitted?

- questions.java

=====The End of Lab 6=====