Problem 1

To swap the variables, I used a temporary variable to store x then set x to y and y to the temporary, which was the original value of x. In this assignment, I learned how to implement pass-by-pointer and pass-by-reference as parameters of a function.
The output of my code:

```
X before pointer swap: 5
Y before pointer swap: 3
X after pointer swap: 3
Y after pointer swap: 5
X after reference swap: 5
Y after reference swap: 3
```

Problem 2

In main, I asked the user to input the class information. I developed four functions that took the arrays and class size as parameters then printed the four required questions. I learned how to use dynamic memory and I/O in C++.
The output of my code:

```
Teacher, what is the number of students in your class?
5
Enter last name of student 0:
Costa
Enter grade (0-100) of student 0:
100
Enter last name of student 1:
Lee
Enter grade (0-100) of student 1:
34
Enter last name of student 2:
Shin
Enter grade (0-100) of student 2:
49
Enter last name of student 3:
Alhawa
Enter grade (0-100) of student 3:
22
Enter last name of student 4:
Alhajj
Enter grade (0-100) of student 4:
56
Average grade in class: 52
The top student, Costa, has grade 100
The name and grade of students with grade <50:
Name: Lee, Grade: 34
Name: Shin, Grade: 49
Name: Alhawa, Grade: 22
The name and grade of students with last names that start with 'a':
Name: Alhawa, Grade: 22
Name: Alhajj, Grade: 56
```