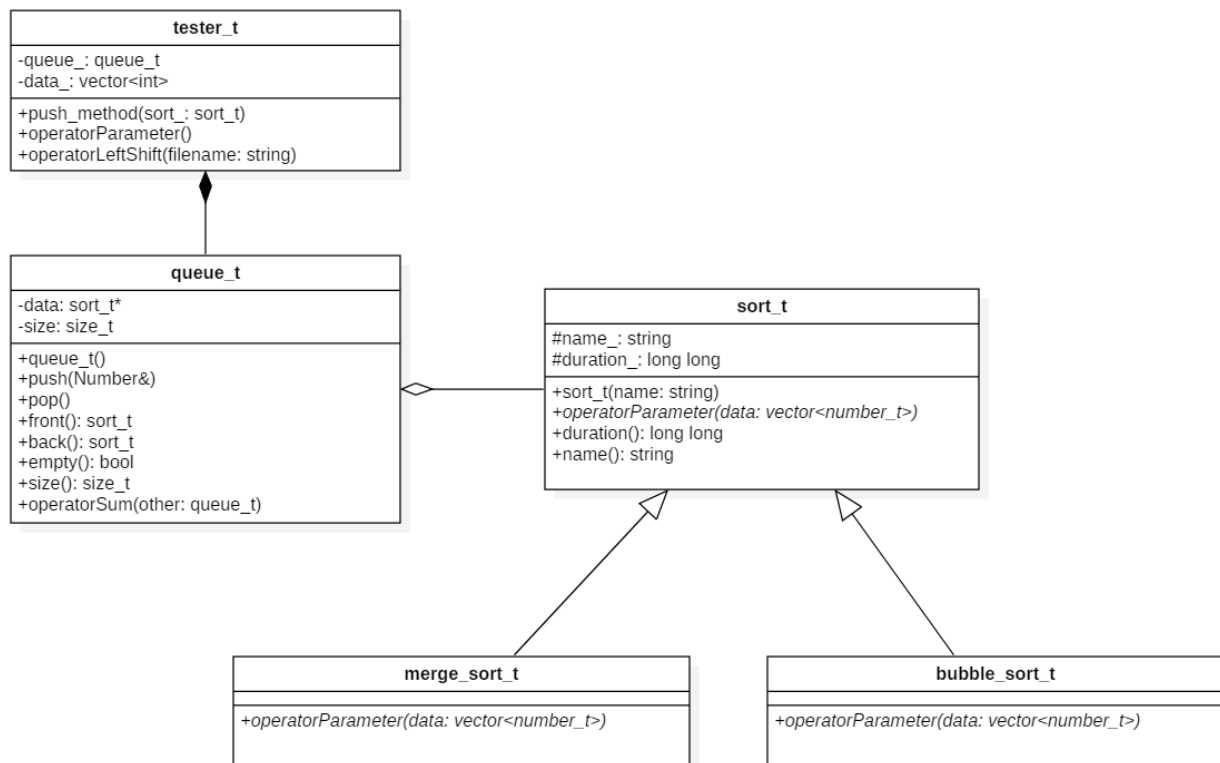Professor: Rubén Rivas

Student: _____

5 points

1. Elaborate a program based on following model:

- **operatorParameter → operator ()**
- **operatorSum → operator+**
- **operatorAssigment → operation=**
- **operatorLeftShift → operator <<**

where,

- **operatorLeftShift** will be used by the tester to read a file where each row in the file is a integer.
- **operatorSum** will allow to create the sum of 2 queues.
- Queue must be generated using a dynamic array.

5 points

2. Develop a generic queue using templates based on prior question.

5 points

3. Write a program that finds if a text is palindrome using **stacks**. Ignore
   blank spaces and other characters that do not belong to English
   alphabetic.

5 points

4. Write a program that receives 4 rows,
   - In **the first row** will be an unsorted list of integer numbers between
     1 to n they will represent the position in the sequential list.
   - In **the second row** will be **n** real numbers that must be values in the
     positions specified in first row.
   - In **third row**, program will receive a positive integer number **d** that
     will represent the distance between the positions in first row then
     if d is the distance, the first element will be 1 and next will be 1
     + d.
   - In **the fourth** row a real Number will be input and it will be used to
     fill the values between positions described in first row.

   The program must generate the correct vector, for example:

   Input
   ```
   3 1 2 4
   10 30 40 20
   2
   11
   ```
   Output
   ```
   30 11 40 11 10 11 20
   ```

   Input
   ```
   3 1 2 4
   100 300 400 200
   3
   12
   ```
   Output
   ```
   300 12 12 400 12 12 100 12 12 200
   ```


Barranco, May 2th, 2020