User manual

This program allows us to manage and control access to a festival held in a closed recital. To do this, we have had to consider that said venue has different scenarios, which have different access queues. In turn, each of these scenarios has different tickets to access. The program oversees collecting and reading information about the people who are going to enter the venue as well as distributing people between the different queues of the venue to access it, so that it calculates the time they take to enter and the number of people entering each queue. For the program to work, just enter the path of the file that contains the information of the people who are going to enter. Once we enter it, the program will perform the pertinent calculations to return the information described above to the console.

The program

In order to improve the efficiency of the program, it has been designed in a modular way. From this principle arise the four different classes that make up our program; the Readfiles class, the Person class, the Problem class, and the Main class. Together they make up the total functionality of our program.

Readfiles class

This class is in charge of reading files. In it, the text data related to the different people is collected, which can be stored in any file on our computer and is read for later organization in the different queues. For this we have in this class a method that is responsible for returning us a queue of text data, which will later be used to create person objects.

Person class

This class helps us to define person objects. It has getters and setters, which provide us with the information related to the two attributes of this class: the name of the stadium and the ticket of the person.

Class Problem

This class helps us to organize the information we have received from reading the files. In it we have a method to create a new queue of person objects in which are all those people who want to enter, which is generated with the data previously received; with a method to distribute the people in the different rows based on the capacity, the stage they want to access and the type of ticket they have; and, finally, with a method that calculates the time it takes for each of the queues, taking as a reference the types of tickets that each person who wants to access has and is in the queue.

Main class

This class is the main class. Thanks to it, we control all the aspects that the other classes of our program facilitate us. In it, the reading of files is ordered, then the general queue of people objects is generated, as well as the distribution of people in the different queues. In addition to all this, from this class it is also ordered to print on the console the different times that the queues take as well as the people who have accessed in addition to the total time it has taken to fill the room.