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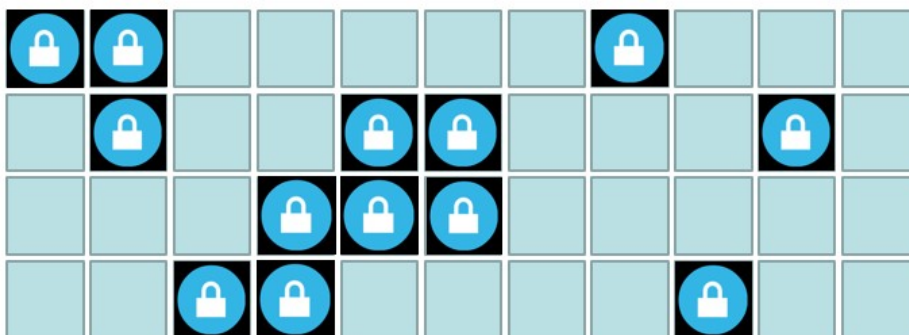
1 contributor

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Free Seats sample application

The exercise consists to develop a sample VCL application, using Delphi language, to solve the "free seats" problem that is described in the technical specifications section. The VCL sample application must be developped using Model-View-Presenter design pattern that allows you to separate different responsabilities, implementing the View, the Model and the Presenter.

Technical specifications

There is a group of people whose number is defined, the Free Seats sample application is able find in what row of a room in a cinema or theater there is enough space for these people to have all the nearby seats. Regarding the "free seats" algorithm, set-based solutions are preferred because today our cinema has one room with twelve rows with forty seats each, but tomorrow it will have ten rooms with twenty rows with fifty seats each :)
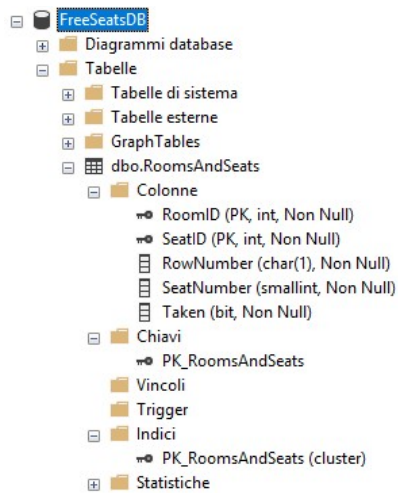
The following picture shows a sample scenario for a room in our cinema, some seats (with the lock image) are already reserved, some others are free.

The *input* consists of the number of people who want to buy a carnet of tickets for a particular movie in our cinema or for a theater show. The *output* consists of the coordinates where the group of people can find the exact number of the nearby free seats in the room where the show they want to see will be done.

Free Seats database

The Free Seats sample application works with *FreeSeatsDB* that is hosted on a SQL Server instance running on SQL Azure. You should have already received the credentials for connecting to SQL Azure. The main table in the *FreeSeatsDB* is *dbo.RoomsAndSeats*. The following picture shows the schema of the table *dbo.RoomsAndSeats*.

Goals to achieve

- Connect to Azure SQL Database through Delphi data access components
- Understand the Model View Presenter (M-V-P) design pattern
- Set-based thinking (T-SQL)

Folders organization

In the cappellari-institute/Free seats/ folder there is one sub-folder for each of you, the subfolder name is composed by the first character of your lastname plus the first character of your firstname. For example, my subfolder is GS. Put all your files in your subfolder (you can also create subfolders in your folder), try to do a well organization of your files.

For any questions or doubts don't hesitate to contact me.

Enjoy the Free Seats application! :)