***The Cinema***

***“OOP Project”***

***Team Members:***

* Abdulrahman Diab Mohamed 42110001
* Abdulrahman Mohamed Karkour 42110487
* Anas Ahmed Ibrahim 42010472
* Hadeer Gamal Fayed 42110427
* Ahmed Mohamed abdelhay 42010653
* Menna Tallah Sayed Ghallab 42110247

Welcome to “The Cinema” Application! this application serves Le Grand Rex cinema located in “Paris, France”, the land of luxury life and for sure the right place for your unforgettable movie night experience! You’ll spend with us a remarkable night and you’ll know it from your first step into the Concert venue. Our movie selection is significant and unique, here you’ll find the best movies that had been made in History that our cinema halls been perfectly prepared and build by the best iconic engineers from all around the world, and because we care for our honorable guests, we’ve made everything ready for them to make sure the first visit remains in their minds forever, and we welcome them to pay a visit one more time.

In this report we’ll explain to you how does the program work and what are the used functions :

* **iostream** : One of the fundamental libraries, must be included for printing anything on the screen. Whatever, it is taken from the user or printed by the developer.
* **fstream** : this is the library responsible for file management.
* **String.h** : this library can be used to manipulate a string or array of characters.
* **Vector** : Library vector class is a class template for sequence containers. A vector stores elements of a given type in a linear arrangement and allows fast random access to any element.

***Interface***

Once you run the program you will see the Interface screen, this is the main page of the application and there you will be able to choose from the available options:

1. **Register – Make a new Account:** this option takes you to create a new account screen, there you can create a new account by choosing an available ID from (1 to 100) then create a username and a password made of numbers only.
2. **Login – Use existing Account:** this option takes you to Login screen where you can log into your account, and there is an option that takes you back to registration screen if you have not registered yet, and one more option that takes you back to the main screen.
3. **Admin Login:** this option takes you to Admin screen where you can log in as an Admin, , Username is “qqq”, and Password is “1234”, but hey! **It is a secret!** This screen once you log in allows you to edit current available movies and prices, briefly you have a full control over the whole show.
4. **About:** this option takes you to “About screen” where you can find interesting information and facts about the significant Le Grand Rex concert venue.
5. **Exit:** this option if you choose it will get you out of the application.

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**~ IF** your choice in the main screen is option “number 1” which is “Register – Make a New Account” you will get two options**:** press 1 to continue / press 2 go back to main screen. if you choose to continue you will be asked to choose an ID from (1-100) and you can also see the unavailable IDs, after you choose an ID you will be asked to enter a username, next you will be asked to enter a password (numbers only!), “Note: this step is so important before you may continue using the application if you do not have an existing account!”. now after you have registered successfully you get two options: press 1 to go to Login screen / press 2 to go to main screen.

~ **IF** your choice in the main screen is option “number 2” which is “Login – Use existing Account” you will get three options: press 1 to continue to Login / press 2 to Register / press 3 to go back to main screen. Option 1 lets you log in into your already existing account, you will be asked to put your username and password, option 2 takes you back to registration screen to create an account before you continue, option 3 takes you back to the main screen. After successfully logging in you will get the option to press 1 to see movies list, IF you press 1 you will open the movies list and you will see all the available options and be able to press from (1 - 10) pick. Let us assume you pressed option 1 “The Godfather movie”, you will get the option to press 1 to select seats, if you press 1 you will be asked how many tickets you wish to book ? (4 Maximum) , after you enter your choice the seating menu will be opened in front of you to be able to pick the seats placing, first you will be asked to enter seat row (A-N), Next you will be asked to enter seat number (1-20), if the seats are already booked you will get a warning message: Unavailable Seats!, If not then you will proceed to see the receipt : Total price in EGP, time of the concert, screen number and the date, You will also get the option to print the receipt if you wish.

**~ IF** your choice in the main screenis option “number 3” which is “Admin Login” you will get two options: 1 to Login // 2 to go to main screen. to log in as an admin there’s a special Username and Password been created especially for this super account, IF you press 1 you will be asked to enter Admin username which is “qqq”, next you will be asked to enter password which is “1234”, finally you have logged in successfully as the admin, now you get three options: 1 edit movies // 2 edit prices // 3 Exit. IF you press 1 you will open the Movies list and you will be able to edit on the currently available movies, then you will get two options: press 1 to add movies // press 2 for main screen. IF you press 1 you will be able to enter movie name, next you will be asked to enter movie genre, next you will be asked to enter movie status, then you will be asked to enter movie rating, afterwards you will be asked to enter the number of order you want the movie to be in from available places (current empty places from 5 to 10), after choosing you will see a message that you have successfully added a movie, lastly you will get the option to press 1 to go back to main screen.

**~ IF** your choice in the main screen is option “number 4” which is “About” you will take you to About screen and there you will get to see interesting information and facts about the significant Le Grand Rex concert venue.

**~ IF** your choice in the main screen is option “number 5” which is “Exit” it will get you out of the application and before you leave, you’ll see our warm goodbye message: Thank You for visiting Le Grand Rex!! .

***Classes***

1. **class Cinema:** this is the Parent class of this program, while all the attributes are public, here are the constructors and the functions inside:
2. we have a Constructor that initializes the number of seats to default “zero” as well as setting the prices (Silver ticket = 80EGP // Gold ticket = 150EGP // Platinum ticket = 250).
3. void editPrice function that takes three arguments (int gold, int silver, int plat) then it assigns the parameters to the ticket types and connects them together.
4. **class Seats:** this is achild class that inherits from class Cinema “Parent”, it takes the same attributes and adds to them three more and one vector to make the seats check and it has no functions inside.
5. **class Movie:** this is a child class that inherits from class Cinema “Parent”, it has the exact same attributes, and it has one function:
6. void addmovie that takes four attributes (string m, string g, string s, string r) then it assigns the following arguments: movie name, genre, status, and rating.
7. **class Admin:** this is a child class that inherits from class Cinema “Parent”, this class contains the built-in username and password to sign in as an Admin on the program.
8. **class user:** this is a child class that inherits from class Cinema “Parent”, it has the same attributes of the parent class in addition to two more: string username and int password, it has only one function:
9. void set-user that takes three arguments: (string username, int password, int id ), then it assigns the parameters together to store user data while registering.

***Functions used***

**1/ Void Start:** it is the only function called in the main, this function is where everything begins; it takes username, password, and ID, then it calls movies and mainscreen functions.

**2/ Void errorScreen:** it displays when there is an error occurred, then it calls for errorSelect function.

**3/ Void errorSelect:** it lets you choose an option when an error occurs whether to move somewhere else or go back to main screen.

**4/ Void mainScreen:** it displays the main screen and the available options, then it calls for mainSelect.

**5/ Void mainSelect:** it gives you five choices (for 1 to 5) to choose from, and for each option there is a specific function built for it to do the assigned job as been mentioned earlier in the main screen functions in pages (2&3).

**6/ Void registerScreen:** this function lets you register as a new user on the program, then it calls for registerSelect function.

**7/ Void registerSelect:** it gives you the option to choose to continue or go back to main screen, if you choose to continue you will enter username, password, and ID, after registering it gives you the option to move to login screen or go back to main screen and it calls each of functions.

**8/ Void loginScreen:** it lets you log in be calling loginSelect function.

**9/ Void loginSelect:** gives you three options: whether logging in, going back to register screen or sends you to the main screen, if you log in successfully it calls for movieListScreen.

**10/ Void movieListScreen:** it lists the current available movies at Le Grand Rix (from 1 to 10 movies).

**11/** **Void adminScreen:** it lets you choose whether to continue for logging in as an admin or going back to main screen, then it calls for adminSelect function.

**12/ Void adminSelect:** gives you the possibility of logging in and checks if the username and password are correct as they are already built in the program, then it allows you to edit movies or prices, or to go back to main screen.

**13/** **Void editmovieScreen:** this function shows some choices then calls for editmovieSelect function.

**14/ Void editmovieSelect:** this function lists the available movies , and gives you the option to add movies, then it lets you add movie name, genre, status, and rate.

**15/ void movies:** it lists the current available movies and lets you select from the available ones.

**16/ void selectseats:** this function allows you to choose seats placing by showing all the seats and their tiers, divided into rows and columns, as it checks if your choice has already been chosen and booked or it is available, after wards it shows you what you have chosen: ( your chosen movie, your chosen seats in order, the your name , your total price, show time, screen number and date ) then it gives you the option whether you want to print your receipt or not (Y/N), and then it tells you to press and key to go back to the main screen.

***Thank you***