

Museum Report

OOP B2

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Libraries:

1. fstream:

is a library that consists of both, ofstream and ifstream which means it can create files, write information to files, and read information from files.

2. iostream:

is an object-oriented library that provides input and output functionality using streams.

Interface:

-The First thing will face the user in the interface is the `(WelcomeMessage)` function.

1. Welcome Message:

We created it to make user choose one choice from **7 choices**:

- **Choice number one is:**

Booking Ticket: if user entered (1), it will call function booking to book tickets. it takes one parameter called num that we take it from user in the main, to make user enter how many tickets he wants to buy. In the function we ask user to enter the name, id, age, Time. We pass all of them to functions sets. And when user enter the age, we check if age >10 then ticket price will cost 30, if age <=10 then ticket will cost 20, Then all data will be saved at outTicket file.

- **Choice number two is:**

View Ticket: if user entered (2), it will call function called View: that shows the user his tickets which he has already chosen, by print lines from file (outTicket).

- **Choice number three is:**

Working hours: if user entered (3), it will call function called Working_Hours: we used (ifstream) to read from a file called HOURS. and we created variable called line to save all lines from the file. And we used getline to read the file line by line.

- **Choice number Four is:**
Museum Map: if user entered (4), it will call function called View, it will view and read from a file called Map that contains the museum map.
- **Choice number Five is:**
Information: if user entered (5), it will call function called Info, it makes user choose one option, if user choose the first option (1), it will call function TourGuide, this function read from file called tourGuide, and display all lines from this file.

Else if user choose the second option (2), it will call function called Show, This function read from file called Show, and display all lines from this file.
- **Choice number Six is:**
Exit: if user entered (6), it will call the function Exit to exit from the program.

Classes:

we created **3 classes**:

1-first class:

is museum that has protected attribute called: **NameOfMuseum**. And has functions:

setName: to Initialize the **NameOfMuseum**, function **getName**: to print the **NameOfMuseum**. **Working_Hours**: to read file: **HOURS**, function: **View**, to display the Map.

2-second class:

is Ticket, it's inheritance from Museum (parent). It has protected attributes: **Name**, **id**, **age**, **Time** and **price**. Then public functions: **setName** (overloading) that takes one parameter to Initialize the Name. Then we created **setid** to Initialize the id. Then we created **setage**, **setTime**, **setPrice**. We created

getName to print Name. then getId, getAge, getTime, getPrice, it also has functions called: booking, View.

3-Third class:

is Service, it's inheritance from Museum (parent). It has private attribute: Code. Then public functions: setCode that takes one parameter to Initialize the code. Then We created getCode to print the code, it also has functions: Info, Show, TourGuide.

Main:

We called function: WelcomeMessage, then we created an object from class Museum called: M, then we created an array of objects from class Ticket called arr and has 10 objects by default, then we created an object from class service called A, then we called a built in function to open the file (outTicket), then we make user choose one option from six options, we created a switch that has 6 cases, then we called built in function called close to close the (outTicket) file.