**Problem Solving Case – BookMyShow – Neha S**

**Tables:**

* **Threatre**

|  |  |
| --- | --- |
| **Column** | **Key** |
| theatre\_id | PK |
| theatre\_name |  |
| location |  |

|  |
| --- |
| **CREATE** **TABLE** Theatre **(**  theatre\_id INT **PRIMARY** **KEY** AUTO\_INCREMENT**,**  theatre\_name VARCHAR**(**100**)** **NOT** **NULL,**  location VARCHAR**(**100**)** **NOT** **NULL**  **);** |

* **Movie**

|  |  |
| --- | --- |
| **Column** | **Key** |
| movie\_id | PK |
| movie\_title |  |
| duration |  |
| genre |  |

|  |
| --- |
| **CREATE** **TABLE** Movie **(**  movie\_id INT **PRIMARY** **KEY** AUTO\_INCREMENT**,**  movie\_title VARCHAR**(**100**)** **NOT** **NULL,**  duration INT **NOT** **NULL,** -- Duration in minutes  genre VARCHAR**(**50**)** **NOT** **NULL**  **);** |

* **Show**

|  |  |
| --- | --- |
| **Column** | **Key** |
| show\_id | PK |
| theatre\_id | FK |
| movie\_id | FK |
| show\_date |  |
| show\_time |  |

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| **CREATE** **TABLE** Show **(**  show\_id INT **PRIMARY** **KEY** AUTO\_INCREMENT**,**  theatre\_id INT**,**  movie\_id INT**,**  show\_date DATE **NOT** **NULL,**  show\_time TIME **NOT** **NULL,**  **FOREIGN** **KEY** **(**theatre\_id**)** **REFERENCES** Theatre**(**theatre\_id**),**  **FOREIGN** **KEY** **(**movie\_id**)** **REFERENCES** Movie**(**movie\_id**)**  **);** |

* **Ticket**

|  |  |
| --- | --- |
| **Column** | **Key** |
| ticket\_id | PK |
| show\_id | FK |
| seat\_number |  |
| price |  |
| booking\_time |  |

|  |
| --- |
| **CREATE** **TABLE** Ticket **(**  ticket\_id INT **PRIMARY** **KEY** AUTO\_INCREMENT**,**  show\_id INT**,**  seat\_number VARCHAR**(**10**)** **NOT** **NULL,**  price DECIMAL**(**10**,** 2**)** **NOT** **NULL,**  booking\_time DATETIME **NOT** **NULL,**  **FOREIGN** **KEY** **(**show\_id**)** **REFERENCES** Show**(**show\_id**)**  **);** |

**SQL – Sample Data Entries**

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| --- |
| **INSERT** **INTO** Theatre **(**theatre\_name**,** location**)** **VALUES**  **(**'Cineplex'**,** 'Downtown'**),**  **(**'Film City'**,** 'Uptown'**),**  **(**'Star Theatre'**,** 'Midtown'**);** |

|  |
| --- |
| **INSERT** **INTO** Movie **(**movie\_title**,** duration**,** genre**)** **VALUES**  **(**'The Great Adventure'**,** 120**,** 'Action'**),**  **(**'Love in the Time of War'**,** 90**,** 'Romance'**),**  **(**'Space Odyssey'**,** 150**,** 'Sci-Fi'**);** |

|  |
| --- |
| **INSERT** **INTO** Show **(**theatre\_id**,** movie\_id**,** show\_date**,** show\_time**)** **VALUES**  **(**1**,** 1**,** '2024-09-30'**,** '14:00:00'**),**  **(**1**,** 2**,** '2024-09-30'**,** '16:00:00'**),**  **(**2**,** 3**,** '2024-09-30'**,** '18:00:00'**);** |

|  |
| --- |
| **INSERT** **INTO** Ticket **(**show\_id**,** seat\_number**,** price**,** booking\_time**)** **VALUES**  **(**1**,** 'A1'**,** 10.00**,** '2024-09-29 10:00:00'**),**  **(**2**,** 'A2'**,** 10.00**,** '2024-09-29 10:05:00'**),**  **(**3**,** 'B1'**,** 12.00**,** '2024-09-29 10:10:00'**);** |

**SQL - Query to List Shows on a Given Date at a Given Theatre**

|  |
| --- |
| **SELECT**  M**.**movie\_title**,**  S**.**show\_date**,**  S**.**show\_time  **FROM**  Show S  **JOIN**  Movie M **ON** S**.**movie\_id **=** M**.**movie\_id  **WHERE**  S**.**show\_date **=** '2024-09-30' **AND**  S**.**theatre\_id **=** 1**;** -- Replace 1 with the desired theatre\_id |