* **Bike**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, auto increment |
| **2.** |  |  | type | VARCHAR(45) | Yes | Bike type, e.g., bicycle, tandem, e-bicycle |
| **3.** |  |  | barcode | VARCHAR(45) | Yes | Bike barcode |
| **4.** |  |  | value | FLOAT | Yes | Price of bike |
| **5.** |  |  | status | TINYINT | Yes | bike in use or not (status = false mean bike is in use) |
| **6.** |  | x | dockID | INT | Yes |  |

* **Bicycle**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, same as ID of Bike of which type is bicycle |

* **Tandem**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, same as ID of Bike of which type is Tandem |

* **ElectricBicycle**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, same as ID of Bike of which type is Electric bicycle |
| **2.** |  |  | battery | INT | Yes | Current battery |
| **3.** |  |  | licensePlate | VARCHAR(45) | Yes |  |

* **Dock**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, auto increment |
| **2.** |  |  | name | VARCHAR(45) | Yes | Dock name |
| **3.** |  |  | address | VARCHAR(45) | Yes | Dock address |
| **4.** |  |  | area | FLOAT | Yes | Price of bike |
| **5.** |  |  | status | TINYINT | Yes | Dock is active or not (status = true mean dock is active) |

* **User**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | CHAR(12) | Yes | User ID |
| **2.** |  |  | name | VARCHAR(45) | Yes | User name |

* **Card**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | Card ID |
| **2.** |  |  | cvv | VARCHAR(45) | Yes | cvv code |
| **3.** |  |  | method | VARCHAR(45) | Yes | Card method, e.g., credit card |
| **4.** |  |  | dateExpiration | DATETIME | Yes | Expiration date |
| **5.** |  | x | userID | CHAR(12) | Yes | owner id of card |

* **Credit card**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, same as ID of Card of which type is Credit |

* **Transaction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, auto increment |
| **2.** |  | x | userID | INT | Yes | User ID |
| **3.** |  | x | bikeID | INT | Yes | Bike ID |
| **4.** |  |  | dateTime | DATETIME | Yes | Rental start time |
| **5.** |  |  | totalTime | FLOAT | No | Total rental time (= null if status = true) |
| **6.** |  |  | status | TINYINT | Yes | End of renting or not (status = true mean end of renting) |

* **PaymentTransaction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID |
| **2.** |  | x | transactionID | INT | Yes | Transaction ID |
| **3.** |  |  | category | VARCHAR(45) | Yes | Payment category, e.g., pay, refund |
| **4.** |  | x | cardID | INT | Yes | Card ID |
| **5.** |  |  | errorCode | VARCHAR(45) | Yes | Error code |
| **6.** |  | x | content | VARCHAR(45) | No | Transaction content |
| **7.** |  |  | amount | FLOAT | Yes | Transaction amount |
| **8.** |  |  | creatAt | DATETIME | Yes | Date of creation |

* **Invoice**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **PK** | **FK** | **Column name** | **Data type** | **Mandatory** | **Description** |
| **1.** | x |  | id | INT | Yes | ID, auto increment |
| **2.** |  | x | paymentTransactionID | INT | Yes | Payment transaction ID |
| **3.** |  | x | returnDockID | INT | Yes | Dock ID user return bike |