EASTERN INTERNATIONAL UNIVERSITY **Practice Assignment – Quarter 4, 2023-2024**

**SCHOOL OF COMPUTING Course Name:** Database

**AND INFORMATION TECHNOLOGY** **Course Code:** CSE 301

🙙🕮🙛 **Student’s Full Name:**

**Lab 3**

**Student ID:**

# Using MySQL Workbench to create Database, Table, Statements related Database.

# Problem 1: Sale management Database

1. Create the following tables in a new database ‘SaleManagement’:
2. Create a new database with the name " SaleManagement".
3. Create all the tables under this database.
4. Informations Tables:
5. *Table Name*: **Clients**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Constraints** | **A screenshot of a computer screen  Description automatically generated** |
| Client\_Number | VARCHAR | 10 | Primary Key, first letter must start with ‘C’ |
| Client\_Name | VARCHAR | 25 | Not null |
| Address | VARCHAR | 30 |  |
| City | VARCHAR | 30 |  |
| Pincode | INT |  | Not null |
| Province | CHAR | 25 |  |
| Amount\_Paid | DECIMAL | 15,4 |  |
| Amount \_Due | DECIMAL | 15,4 |  |

1. *Table Name*: **Product**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Constraints** | **A computer code with text  Description automatically generated** |
| Product\_Number | VARCHAR | 15 | Primary Key, first letter must start with ‘P’ |
| Product\_Name | VARCHAR | 25 | Not null, Unique |
| Quantity\_On\_Hand | INT |  | Not null |
| Quantity\_Sale | INT |  | Not null |
| Sale\_Price | DECIMAL | 15,4 | Not null |
| Cost\_Price | DECIMAL | 15,4 | Not null, cannot be 0 |

1. *Table Name*: **Salesman**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Constraints** | A screenshot of a computer screen  Description automatically generated |
| Salesman \_Number | VARCHAR | 15 | Primary Key, first letter must start with ‘S’ |
| Salesman \_Name | VARCHAR | 25 | Not null |
| Address | VARCHAR | 30 |  |
| City | VARCHAR | 30 |  |
| Pincode | INT |  | Not null |
| Province | CHAR | 25 | Default ‘Vietnam’ |
| Salary | DECIMAL | 15,4 | Not null, cannot be 0 |
| Sales\_Target | INT |  | Not null, cannot be 0 |
| Target\_Achieved | INT |  |  |
| Phone | CHAR | 10 | Not null, Unique, |

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Constraints** |
| Order\_Number | VARCHAR | 15 | Primary Key, first letter must start with ‘O’ |
| Order\_Date | DATE |  |  |
| Client\_Number | VARCHAR | 10 | Foreign key references Client\_Number of Client table, first letter must start with ‘C’ |
| Salesman\_Number | VARCHAR | 15 | Foreign key references Salesman\_Number of Salesman table, first letter must start with ‘S’ |
| Delivery\_Status | CHAR | 15 | Values (‘Delivered’, ‘On Way’, ‘Ready to Ship’) |
| Delivery\_Date | DATE |  | Cannot be less than Order\_date |
| Order\_Status | VARCHAR | 15 | Values (‘In Process’, ‘Successful’, ‘Cancelled’) |

1. *Table Name*: **SalesOrder**

**A screenshot of a computer code

Description automatically generated**

1. *Table Name*: **SalesOrderDetails**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Constraints** |  |
| Order\_Number | VARCHAR | 15 | Foreign key references Order\_Number of Sales\_Order table |
| Product\_Number | VARCHAR | 15 | Foreign key references Product\_Number of Product table, first letter must start with ‘P’ |
| Order\_Quantity | INT |  |  |

1. Insert Data into following tables:
2. **Clients**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Client\_Number** | **Client\_Name** | **Address** | **City** | **Pincode** | **Province** | **Amount\_Paid** | **Amount\_ Due** |
| C101 | Mai Xuan | Phu Hoa | Dai An | 700001 | Binh Duong | 10000 | 5000 |
| C102 | Le Xuan | Phu Hoa | Thu Dau Mot | 700051 | Binh Duong | 18000 | 3000 |
| C103 | Trinh Huu | Phu Loi | Da Lat | 700051 | Lam Dong | 7000 | 3200 |
| C104 | Tran Tuan | Phu Tan | Thu Dau Mot | 700080 | Binh Duong | 8000 | 0 |
| C105 | Ho Nhu | Chanh My | Hanoi | 700005 | Hanoi | 7000 | 150 |
| C106 | Tran Hai | Phu Hoa | Ho Chi Minh | 700002 | Ho Chi Minh | 7000 | 1300 |
| C107 | Nguyen Thanh | Hoa Phu | Dai An | 700023 | Binh Duong | 8500 | 7500 |
| C108 | Nguyen Sy | Tan An | Da Lat | 700032 | Lam Dong | 15000 | 1000 |
| C109 | Duong Thanh | Phu Hoa | Ho Chi Minh | 700011 | Ho Chi Minh | 12000 | 8000 |
| C110 | Tran Minh | Phu My | Hanoi | 700005 | Hanoi | 9000 | 1000 |

**Script to insert data:**

('C101','Mai Xuan','Phu Hoa','Dai An',700001,'Binh Duong',10000,5000),

('C102','Le Xuan','Phu Hoa','Thu Dau Mot',700051,'Binh Duong',18000,3000),

('C103','Trinh Huu','Phu Loi','Da Lat',700051,'Lam Dong ',7000,3200),

('C104','Tran Tuan','Phu Tan','Thu Dau Mot',700080,'Binh Duong',8000,0),

('C105','Ho Nhu','Chanh My','Hanoi',700005,'Hanoi',7000,150),

('C106','Tran Hai','Phu Hoa','Ho Chi Minh',700002,'Ho Chi Minh',7000,1300),

('C107','Nguyen Thanh ','Hoa Phu','Dai An',700023,'Binh Duong',8500,7500),

('C108','Nguyen Sy','Tan An','Da Lat',700032,'Lam Dong ',15000,1000),

('C109','Duong Thanh','Phu Hoa','Ho Chi Minh',700011,'Ho Chi Minh',12000,8000),

('C110','Tran Minh','Phu My','Hanoi',700005,'Hanoi',9000,1000);

1. **Product**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Product\_Number** | **Product\_Name** | **Quantity\_On\_Hand** | **Quantity\_Sell** | **Sell\_Price** | **Cost\_Price** |
| P1001 | TV | 10 | 30 | 1000 | 800 |
| P1002 | Laptop | 12 | 25 | 1500 | 1100 |
| P1003 | AC | 23 | 10 | 400 | 300 |
| P1004 | Modem | 22 | 16 | 250 | 230 |
| P1005 | Pen | 19 | 13 | 12 | 8 |
| P1006 | Mouse | 5 | 10 | 100 | 105 |
| P1007 | Keyboard | 45 | 60 | 120 | 90 |
| P1008 | Headset | 63 | 75 | 50 | 40 |

**Script to insert data:**

('P1001','TV',10,30,1000,800),

('P1002','Laptop',12,25,1500,1100),

('P1003','AC',23,10,400,300),

('P1004','Modem',22,16,250,230),

('P1005','Pen',19,13,12,8),

('P1006','Mouse',5,10,100,105),

('P1007','Keyboard',45,60,120,90),

('P1008','Headset',63,75,50,40);

1. **Salesman**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Salesman \_Number** | **Salesman \_Name** | **Address** | **City** | **Pincode** | **Province** | **Salary** | **Sales\_Target** | **Target\_Achieve** | **Phone** |
| S001 | Huu | Phu Tan | Ho Chi Minh | 700002 | Ho Chi Minh | 15000 | 50 | 35 | 0902361123 |
| S002 | Phat | Tan An | Hanoi | 700005 | Hanoi | 25000 | 100 | 110 | 0903216542 |
| S003 | Khoa | Phu Hoa | Thu Dau Mot | 700051 | Binh Duong | 17500 | 40 | 30 | 0904589632 |
| S004 | Tien | Phu Hoa | Dai An | 700023 | Binh Duong | 16500 | 70 | 72 | 0908654723 |
| S005 | Deb | Hoa Phu | Thu Dau Mot | 700051 | Binh Duong | 13500 | 60 | 48 | 0903213659 |
| S006 | Tin | Chanh My | Da Lat | 700032 | Lam Dong | 20000 | 80 | 55 | 0907853497 |

**Script to insert data:**

('S001','Huu','Phu Tan','Ho Chi Minh',700002,'Ho Chi Minh',15000,50,35,'0902361123'),

('S002','Phat','Tan An','Hanoi',700005,'Hanoi',25000,100,110,'0903216542'),

('S003','Khoa','Phu Hoa','Thu Dau Mot',700051,'Binh Duong',17500,40,30,'0904589632'),

('S004','Tien','Phu Hoa','Dai An',700023,'Binh Duong',16500,70,72,'0908654723'),

('S005','Deb','Hoa Phu','Thu Dau Mot',700051,'Binh Duong',13500,60,48,'0903213659'),

('S006','Tin','Chanh My','Da Lat',700032,'Lam Dong',20000,80,55,'0907853497');

1. **Sales\_order**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Order\_Number** | **Order\_Date** | **Client\_Number** | **Salesman\_Number** | **Delivery\_Status** | **Delivery\_Date** | **Order\_Status** |
| O20001 | 2022-01-15 | C101 | S003 | Delivered | 2022-02-10 | Successful |
| O20002 | 2022-01-25 | C102 | S003 | Delivered | 2022-02-15 | Cancelled |
| O20003 | 2022-01-31 | C103 | S002 | Delivered | 2022-04-03 | Successful |
| O20004 | 2022-02-10 | C104 | S003 | Delivered | 2022-04-23 | Successful |
| O20005 | 2022-02-18 | C101 | S003 | On Way | null | Cancelled |
| O20006 | 2022-02-22 | C105 | S005 | Ready to Ship | null | In Process |
| O20007 | 2022-04-03 | C106 | S001 | Delivered | 2022-05-08 | Successful |
| O20008 | 2022-04-16 | C102 | S006 | Ready to Ship | null | In Process |
| O20009 | 2022-04-24 | C101 | S004 | On Way | null | Successful |
| O20010 | 2022-04-29 | C106 | S006 | Delivered | 2022-05-08 | Successful |
| O20011 | 2022-05-08 | C107 | S005 | Ready to Ship | null | Cancelled |
| O20012 | 2022-05-12 | C108 | S004 | On Way | null | Successful |
| O20013 | 2022-05-16 | C109 | S001 | Ready to Ship | null | In Process |
| O20014 | 2022-05-16 | C110 | S001 | On Way | null | Successful |

**Script to insert data:**

('O20001','2022-01-15','C101','S003','Delivered','2022-02-10','Successful'),

('O20002','2022-01-25','C102','S003','Delivered','2022-02-15','Cancelled'),

('O20003','2022-01-31','C103','S002','Delivered','2022-04-03','Successful'),

('O20004','2022-02-10','C104','S003','Delivered','2022-04-23','Successful'),

('O20005','2022-02-18','C101','S003','On Way',null,'Cancelled'),

('O20006','2022-02-22','C105','S005','Ready to Ship',null,'In Process'),

('O20007','2022-04-03','C106','S001','Delivered','2022-05-08','Successful'),

('O20008','2022-04-16','C102','S006','Ready to Ship',null,'In Process'),

('O20009','2022-04-24','C101','S004','On Way',null,'Successful'),

('O20010','2022-04-29','C106','S006','Delivered','2022-05-08','Successful'),

('O20011','2022-05-08','C107','S005','Ready to Ship',null,'Cancelled'),

('O20012','2022-05-12','C108','S004','On Way',null,'Successful'),

('O20013','2022-05-16','C109','S001','Ready to Ship',null,'In Process'),

('O20014','2022-05-16','C110','S001','On Way',null,'Successful');

1. **Sales\_Order\_Details**

|  |  |  |  |
| --- | --- | --- | --- |
| **Order\_Number** | **Product\_Number** | **Order\_Quantity** | **Script to insert data:**  ('O20001','P1001',5),  ('O20001','P1002',4),  ('O20002','P1007',10),  ('O20003','P1003',12),  ('O20004','P1004',3),  ('O20005','P1001',8),  ('O20005','P1008',15),  ('O20005','P1002',14),  ('O20006','P1002',5),  ('O20007','P1005',6),  ('O20008','P1004',8),  ('O20009','P1008',2),  ('O20010','P1006',11),  ('O20010','P1001',9),  ('O20011','P1007',6),  ('O20012','P1005',3),  ('O20012','P1001',2),  ('O20013','P1006',10),  ('O20014','P1002',20); |
| O20001 | P1001 | 5 |
| O20001 | P1002 | 4 |
| O20002 | P1007 | 10 |
| O20003 | P1003 | 12 |
| O20004 | P1004 | 3 |
| O20005 | P1001 | 8 |
| O20005 | P1008 | 15 |
| O20005 | P1002 | 14 |
| O20006 | P1002 | 5 |
| O20007 | P1005 | 6 |
| O20008 | P1004 | 8 |
| O20009 | P1008 | 2 |
| O20010 | P1006 | 11 |
| O20010 | P1001 | 9 |
| O20011 | P1007 | 6 |
| O20012 | P1005 | 3 |
| O20012 | P1001 | 2 |
| O20013 | P1006 | 10 |
| O20014 | P1002 | 20 |

1. *Write SQL queries for following operations:*
   * Show the schema of “Clients”, “Product”, “Salesman”, “Salesorder”, “Salesorderdetails” tables.
   * Display the content of “Clients”, “Product”, “Salesman”, “Salesorder”, “Salesorderdetails” tables.

# Problem 2: Human Resources Management Database

1. **Give the Database Schema below:**

**EMPLOYEES** (employeeID, lastName, middle Name, firstName, date0fBirth, gender, salary, address, managerID, departmentID)

**DEPARTMENT** (departmentID, departmentName, managerID, date0fEmployment)

**DEPARTMENTADDRESS** (departmentID, address)

**PROJECTS (**projectID, projectName, projectAddress, departmentID)

**ASSIGNMENT** (employeeID, projectID, workingHour)

**RELATIVE** ( employeeID, relativeName, gender, date0fBirth, relationship)

1. Explaining datatype of attributes in the table:

**EMPLOYEES** (employeeID, lastName, firstName, middle Name, date0fBirth, gender, salary, managerID, departmentID)

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Attribute** | **Datatype** | **Contraints** |
| 1 | employeeID | varchar(3) | PRIMARY KEY |
| 2 | lastName | varchar(20) | NOT NULL |
| 3 | middle Name | varchar(20) | NULL |
| 4 | firstName | varchar(20) | NOT NULL |
| 5 | date0fBirth | date - format MM-DD- YYYY | NOT NULL |
| 6 | gender | varchar(5) | NOT NULL |
| 7 | salary | money | NOT NULL |
| 8 | address | varchar(100) | NOT NULL |
| 9 | managerID | varchar(3) | FORIEGN KEY |
| 10 | departmentID | int | FORIEGN KEY |

**A table with numbers and numbers

Description automatically generated**

**DEPARTMENT** (departmentID, departmentName, managerID, date0fEmployment)

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Attribute** | **Datatype** | **Contraints** |
| 1 | departmentID | int | PRIMARY KEY |
| 2 | departmentName | varchar(10) | NOT NULL |
| 3 | managerID | varchar(3) | FORIEGN KEY |
| 4 | date0fEmployment | date | NOT NULL |

|  |  |  |  |
| --- | --- | --- | --- |
| **departmentID** | **departmentName** | **managerID** | **date0fEmployment** |
| 1 | Quan ly | 888 | 19/06/1971 |
| 4 | Dieu hanh | 777 | 01/01/1985 |
| 5 | Nghien cuu | 333 | 22/05/1978 |

**DEPARTMENTADDRESS** (departmentID, address)

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Attribute** | **Datatype** | **Contraints** |
| 1 | departmentID | int | PRIMARY KEY, FORIEGN KEY |
| 2 | address | varchar(30) | PRIMARY KEY |

|  |  |
| --- | --- |
| **departmentID** | **address** |
| 1 | TP HCM |
| 4 | HA NOI |
| 5 | NHA TRANG |
| 5 | TP HCM |
| 5 | VUNG TAU |

**PROJECTS (**projectID, projectName, projectAddress, departmentID)

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Attribute** | **Datatype** | **Contraints** |
| 1 | projectID | int | PRIMARY KEY |
| 2 | projectName | varchar(30) | NOT NULL |
| 3 | projectAddress | varchar(100) | NOT NULL |
| 4 | departmentID | int | FORIEGN KEY |

|  |  |  |  |
| --- | --- | --- | --- |
| **projectID** | **projectName** | **projectAddress** | **departmentID** |
| 1 | San pham X | VUNG TAU | 5 |
| 2 | San pham Y | NHA TRANG | 5 |
| 3 | San pham Z | TP HCM | 5 |
| 10 | Tin hoc hoa | HA NOI | 4 |
| 20 | Cap Quang | TP HCM | 1 |
| 30 | Dao tao | HA NOI | 4 |

**ASSIGNMENT** (employeeID, projectID, workingHour)

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Attribute** | **Datatype** | **Contraints** |
| 1 | employeeID | varchar(3) | PRIMARY KEY, FORIEGN KEY |
| 2 | projectID | int | PRIMARY KEY, FORIEGN KEY |
| 3 | workingHour | float | NOT NULL |

|  |  |  |
| --- | --- | --- |
| **employeeID** | **projectID** | **workingHour** |
| 123 | 1 | 22.5 |
| 123 | 2 | 7.5 |
| 123 | 3 | 10 |
| 333 | 10 | 10 |
| 333 | 20 | 10 |
| 453 | 1 | 20 |
| 453 | 2 | 20 |
| 666 | 3 | 40 |
| 888 | 20 | 0 |
| 987 | 20 | 15 |

**RELATIVE** ( employeeID, relativeName, gender, date0fBirth, relationship)

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Attribute** | **Datatype** | **Contraints** |
| 1 | employeeID | varchar(3) | PRIMARY KEY, FORIEGN KEY |
| 2 | relativeName | varchar(50) | PRIMARY KEY |
| 3 | gender | varchar(5) | NOT NULL |
| 4 | date0fBirth | date | NULL |
| 5 | relationship | varchar(30) | NOT NULL |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **employeeID** | **relativeName** | **gender** | **date0fBirth** | **relationship** |
| 123 | Chau | Nu | 12/31/1978 | Con gai |
| 123 | Duy | Nam | 1/1/1978 | Con trai |
| 123 | Phuong | Nu | 5/5/1957 | Vo chong |
| 333 | Duong | Nu | 5/3/1948 | Vo chong |
| 333 | Quang | Nu | 4/5/1976 | Con gai |
| 333 | Tung | Nam | 10/25/1973 | Con trai |
| 987 | Dang | Nam | 2/29/1932 | Vo chong |