Heaven's Light is Our Guide

Rajshahi University of Engineering and Technology

Course Code
ECE 2216

Course Title
Database Systems Sessional

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Lab Report 1: Basic operations of SQL

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Contents

Basic MySQL Operations

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1 Tools Used

- MySQL
- VS Code - as an IDE to use SQL
- MacTeX -LaTeXcompiler
- VS Code with LaTeX workshop extension as a text editor

2 Process

2.1 SQL Codes:

```
CREATE DATABASE Product;

use Product;

CREATE TABLE
    ProductInfo (
        Id int not null auto_increment primary key,
        Name varchar(30),
        OrderID int,
        Salesman varchar(20),
        Catagory varchar(20),
        Unit_Price int,
        Quantity int
    )
INSERT INTO
    ProductProductInfo (
        Name,
        OrderID,
        Salesman,
        Catagory,
        Unit_Price,
        Quantity
    )
VALUES
```

```
    ('Mouse', 123, 'Robert', 'Accessories', 2560.00, 3),
    (
        'Earphone',
        1253,
        'Robert',
        'Accessories',
        1560.00,
        2
    ),
    (
        'Keyboard',
        156,
        'Mark',
        'Accessories',
        4560.00,
        4
    ),
    (
        'Mousepad',
        1232,
        'John',
        'Accessories',
        560.00,
        2
    );

SELECT
    *
FROM
    Product.ProductInfo
where
    Salesman = 'Robert'
```

2.2 Output

Id	Name	OrderID	Salesman	Catagory	Unit_Price	Quantity
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter
1	Mouse	123	Robert	Accessories	2560	2
2	Earphone	1253	Robert	Accessories	1560	2
3	Keyboard	156	Mark	Accessories	4560	4
4	Mousepad	1232	John	Accessories	560	2

Figure 1: Table, ProductInfo, created using the above SQL code.

Id	Name	OrderID	Salesman	Catagory	Unit_Price	Quantity
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter
1	Mouse	123	Robert	Accessories	2560	2
2	Earphone	1253	Robert	Accessories	1560	2

Figure 2: A query view from ProductInfo where Salesman is "Robert"

3 Analysis

3.0.1 Code explanation

First the code used:

```
CREATE DATABASE Product;
use Product;
```

is to first create a database named *Product* and then by the *use* keyword, the database is select for further operations.
Next by using the following code, a table in the previous database is created.

```
CREATE TABLE
ProductInfo (
    Id int not null auto_increment primary key,
    Name varchar(30),
    OrderID int,
    Salesman varchar(20),
    Catagory varchar(20),
    Unit_Price int,
    Quantity int
)
```

After that, insertion in the database is done using the INSERT INTO SQL:

```
INSERT INTO
ProductProductInfo (
    Name,
    OrderID,
    Salesman,
    Catagory,
    Unit_Price,
    Quantity
)
VALUES
('Mouse', 123, 'Robert', 'Accessories', 2560.00, 3)
```

Lastly, to view selected data in a table, the SELECT code is used:

```
SELECT
*
```

```
FROM
Product.ProductInfo
where
Salesman = 'Robert'
```

4 Discussion

Int this SQL code the Id column is kept as a primary key, and when it was initialised, AUTO_INCREMENT was used. As such, when inserting records, no Id was provided.
There are some other basic operations on SQL, like DROP which removes the database. It was not included here. Some other codes like UPDATE, ALTER TABLE was also used but not shown here. I also ran some experiments with various codes to get a grasp on the SQL. It's easier than it looks. Also, the codes being not case-sensitive, makes it far easier to avoid syntax errors.