Table creation code

CREATE TABLE Manufacturers (

Code INTEGER,

Name VARCHAR(255) NOT NULL,

PRIMARY KEY (Code)

);

CREATE TABLE Products (

Code INTEGER,

Name VARCHAR(255) NOT NULL ,

Price DECIMAL NOT NULL ,

Manufacturer INTEGER NOT NULL,

PRIMARY KEY (Code),

FOREIGN KEY (Manufacturer) REFERENCES Manufacturers(Code)

) ENGINE=INNODB;

## Sample dataset

INSERT INTO Manufacturers(Code,Name) VALUES

(1,'Sony'),

(2,'Creative Labs'),

(3,'Hewlett-Packard'),

(4,'Iomega'),

(5,'Fujitsu'),

(6,'Winchester');

INSERT INTO Products(Code,Name,Price,Manufacturer) VALUES(1,'Hard drive',240,5),(2,'Memory',120,6),(3,'ZIP drive',150,4),(4,'Floppy disk',5,6),(5,'Monitor',240,1),

(6,'DVD drive',180,2),(7,'CD drive',90,2),(8,'Printer',270,3),(9,'Toner cartridge',66,3),(10,'DVD burner',180,2);

1. Select the names of all the products in the store.

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**SELECT** Name **FROM** Products;

2. Select the names and the prices of all the products in the store.

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**SELECT** Name, Price **FROM** Products;

3. Select the name of the products with a price less than or equal to $200.

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**SELECT** Name **FROM** Products **WHERE** Price <= 200;

4. Select all the products with a price between $60 and $120.

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*/\* With AND \*/*

**SELECT** \* **FROM** Products

**WHERE** Price >= 60 **AND** Price <= 120;

*/\* With BETWEEN \*/*

**SELECT** \* **FROM** Products

**WHERE** Price **BETWEEN** 60 **AND** 120;

5. Select the name and price in cents (i.e., the price must be multiplied by 100).

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*/\* Without AS \*/*

**SELECT** Name, Price \* 100 **FROM** Products;

*/\* With AS \*/*

**SELECT** Name, Price \* 100 **AS** PriceCents **FROM** Products;

6. Compute the average price of all the products.

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**SELECT** **AVG**(Price) **FROM** Products;

7. Compute the average price of all products with manufacturer code equal to 2.

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**SELECT** **AVG**(Price) **FROM** Products **WHERE** Manufacturer=2;

8. Compute the number of products with a price larger than or equal to $180.

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**SELECT** **COUNT**(\*) **FROM** Products **WHERE** Price >= 180;

9. Select the name and price of all products with a price larger than or equal to $180, and sort first by price (in descending order), and then by name (in ascending order).

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**SELECT** Name, Price

**FROM** Products

**WHERE** Price >= 180

**ORDER** **BY** Price **DESC**, Name;

10. Select all the data from the products, including all the data for each product's manufacturer.

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*/\* Without LEFT JOIN \*/*

**SELECT** \* **FROM** Products, Manufacturers

**WHERE** Products.Manufacturer = Manufacturers.Code;

*/\* With LEFT JOIN \*/*

**SELECT** \*

**FROM** Products **LEFT** **JOIN** Manufacturers

**ON** Products.Manufacturer = Manufacturers.Code;

11. Select the product name, price, and manufacturer name of all the products.

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*/\* Without INNER JOIN \*/*

**SELECT** Products.Name, Price, Manufacturers.Name

**FROM** Products, Manufacturers

**WHERE** Products.Manufacturer = Manufacturers.Code;

*/\* With INNER JOIN \*/*

**SELECT** Products.Name, Price, Manufacturers.Name

**FROM** Products **INNER** **JOIN** Manufacturers

**ON** Products.Manufacturer = Manufacturers.Code;

12. Select the average price of each manufacturer's products, showing only the manufacturer's code.

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**SELECT** **AVG**(Price), Manufacturer

**FROM** Products

**GROUP** **BY** Manufacturer;

13. Select the average price of each manufacturer's products, showing the manufacturer's name.

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*/\* Without INNER JOIN \*/*

**SELECT** **AVG**(Price), Manufacturers.Name

**FROM** Products, Manufacturers

**WHERE** Products.Manufacturer = Manufacturers.Code

**GROUP** **BY** Manufacturers.Name;

*/\* With INNER JOIN \*/*

**SELECT** **AVG**(Price), Manufacturers.Name

**FROM** Products **INNER** **JOIN** Manufacturers

**ON** Products.Manufacturer = Manufacturers.Code

**GROUP** **BY** Manufacturers.Name;

14. Select the names of manufacturer whose products have an average price larger than or equal to $150.

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*/\* Without INNER JOIN \*/*

**SELECT** **AVG**(Price), Manufacturers.Name

**FROM** Products, Manufacturers

**WHERE** Products.Manufacturer = Manufacturers.Code

**GROUP** **BY** Manufacturers.Name

**HAVING** **AVG**(Price) >= 150;

*/\* With INNER JOIN \*/*

**SELECT** **AVG**(Price), Manufacturers.Name

**FROM** Products **INNER** **JOIN** Manufacturers

**ON** Products.Manufacturer = Manufacturers.Code

**GROUP** **BY** Manufacturers.Name

**HAVING** **AVG**(Price) >= 150;

15. Select the name and price of the cheapest product.

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**SELECT** name,price

**FROM** Products

**ORDER** **BY** price **ASC**

**LIMIT** 1

*/\* With a nested SELECT \*/*

*/\* WARNING: If there is more than one item with the cheapest price it will select them both \*/*

**SELECT** Name, Price

**FROM** Products

**WHERE** Price = (**SELECT** **MIN**(Price) **FROM** Products);

16. Select the name of each manufacturer along with the name and price of its most expensive product.

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*/\* With a nested SELECT and without INNER JOIN \*/*

**SELECT** A.Name, A.Price, F.Name

**FROM** Products A, Manufacturers F

**WHERE** A.Manufacturer = F.Code

**AND** A.Price =

(

**SELECT** **MAX**(A.Price)

**FROM** Products A

**WHERE** A.Manufacturer = F.Code

);

*/\* With a nested SELECT and an INNER JOIN \*/*

**SELECT** A.Name, A.Price, F.Name

**FROM** Products A **INNER** **JOIN** Manufacturers F

**ON** A.Manufacturer = F.Code

**AND** A.Price =

(

**SELECT** **MAX**(A.Price)

**FROM** Products A

**WHERE** A.Manufacturer = F.Code

);

17. Select the name of each manufacturer which have an average price above $145 and contain at least 2 different products.

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**Select** m.Name, **Avg**(p.price) **as** p\_price, **COUNT**(p.Manufacturer) **as** m\_count

**FROM** Manufacturers m, Products p

**WHERE** p.Manufacturer = m.code

**GROUP** **BY** p.Manufacturer

**HAVING** p\_price >= 150 **and** m\_count >= 2;

18. Add a new product: Loudspeakers, $70, manufacturer 2.

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**INSERT** **INTO** Products( Code, Name , Price , Manufacturer)

**VALUES** ( 11, 'Loudspeakers' , 70 , 2 );

19. Update the name of product 8 to "Laser Printer".

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**UPDATE** Products

**SET** Name = 'Laser Printer'

**WHERE** Code = 8;

20. Apply a 10% discount to all products.

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**UPDATE** Products

**SET** Price = Price - (Price \* 0.1);

21. Apply a 10% discount to all products with a price larger than or equal to $120.

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**UPDATE** Products

**SET** Price = Price - (Price \* 0.1)

**WHERE** Price >= 120;