ZARA DATABASES

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INDEX

CONTEXT

The databases is going to be used by clients to search and buy products and by the workers to know information about their clients. Our database is to store information about the customers, the stock of the products, the available colours, the sizes, the availability in close stores, the discounts, etc.

The customers sign in the webshop and y desde la plataforma pueden comprar productos, that's why it stores customers' purchases, as their personal information in order to do the delivery. Our company, Zara,works both nationally and internationally.

The problem arises when all the products of each section have to be classified, the employees who work in the different shops, the purchases the customers do (both online and the physical store). To carry on with this, we require of a database.

REQUIREMENTS

The data required for the creation of the database regarding Zara are:

- **The physical part**

  1.Where all the operations are carried out, this takes place in the *Headquarters*, which is the control center of everything that happens. Each Headquarters has:

  - A **country**, for being identified.
  - Where is located, the country, city and address.
  - The number of employees it has.
  - The number of stores.
  - The name and the identifier of the directors.

  2. The *Stores*, are the places where the majority of sales are carried out, it is divided into departments and has a multitude of workers. Each Store has:

  - A **Store ID**, for being identified.
  - The address, city, street and number.
  - The telephone number.
  - Number of Departments.
  - Number of employees.

  3. The *warehouses*, is the place where the products are stored before being distributed both to the stores and to the customers who buy online.
  Has: -A **warehouse ID**,for being identified.
  - The address, city, street and number.
  - Number of Waiter´s Warehouses.

  4. The *departments* are the divisions that have the stores and in which the products are organized. Each Departments has:

  - A **Departaments ID**, for being identified.
  - Number of employees.
  - Number of product.

5. _Webs,_ is a tool that allows customers to buy without leaving home, with home delivery. Has:

- **URL**, is the identifier.
- Available Languages.
- Name.
- Number of users.
- Date of creation.

6. The _maintenance service_ is responsible for making sure that the web pages work well and there are no problems. They are also those who carry out the maintenance of the entire digital system. Has:

- **Maintenance ID,** is the identifier.
- Number of comperts.
- Number of workers.

- **The administrative part** is carried out by employees, among them we can make out:

1. The store _directors,_ are the supervisors of the store, they have:

- **Director ID**.
- Telephone.
- The age.
- The name.
- The gender.
- The studies they have and the seniority.

2. The store _managers,_ they have a lower rank than the store director. They also have:

- **Manager identification**.
- Telephone.
- The address.
- The name.
- The age.
- The studies they have and the seniority.

3. The store *dependent*, are the people who are responsible for cashing, refund and direct contact with clients. They also have:

    - An unique identifier inside the store, **Dependent ID**.

    - The name.

    -The age.

    - The gender.

    - A telephone.

    - The address.

    - The studies they have and the seniority.

4. The stores *advisors,* are the people who are in charge of looking for the products that the client ask for and resolve any doubts that may have. They also have:

    - An identifier, **Advisors ID**.

    - A search number that allows them to control the fitting rooms in case that a client needs them.

    -A telephone number.

    - The name.

    -The age.

    - The gender.

    - The address.

    -The studies they have and the seniority.

5. The *waiter's warehouse* is responsible that products reach the store from the store, also deals with that store this tidy and organize the products that enter. They also have:

    - An identifier, **waiter´s warehouse ID**.

    - The name.

    - The age.

    -A beeper to locate them within the company.

    - The address

    - The studies they have and the seniority.

6. *Computer engineer* is the maintenance service worker, has:
- **Computer Engineer ID**.
- Telephone.

7. *Administrative,* is the person who works in the Headquarters. Has:
- **Administrative ID**.
- Telephone.

8. The *Carrier,* is the person in charge of the transport, from the warehouse to the store, as well as from the warehouse to the customers who buy over the internet. They have:
- **Carrier ID**.
- Telephone.

● The company is also composed of the **part of purchases**, part constituted by customers. These in turn are divided into two, physical customers and cyber customers.

1. *Physical customers* are those who do purchase directly at the store, they have:
- A **purchase ID**.
- The name.
- The surname.

2. The *Cyber customers* are those who make the purchase online, have:
- **Ciber ID**.
- The credit card number.
- The address.

● The **part of products**, the products form the base of the store, each product has:
- A **product ID**.
- An identifier of the section to which it belongs.
- The size.
- The model.
- the materials.

FUNCTIONAL REQUIREMENTS

First of all we will focus on the employees who work in the stores and their organization (salary, timetable, functions, etc.). Our next task is to carry out with the management of the web (subscribed customers, the products we have, the different departments, …). Then we will plan the warehouse (products stored and the employees working in it).

After that, we will think about the administration and deliver of the products, that is the products that arrive to the warehouse and the ones which will be shipped to the customers' address.

 In order to do this, we will need to use the online web in which the customers provide us the necessary information to ship their products. Finally we will have in mind the physic shops and the special dates on which they will be open or closed.

ENTITIES, ATTRIBUTES AND RELATIONSHIPS

A) Entity Sets.

- **The physical part**
    1. *Headquarters*:
        - **country**.
        - Where is located, the country, city and address.
        - Number of employees.
        - Number of stores.
        - The name and the identifier of the directors.

    2. *Stores*:
        - **Store ID**.
        - Address, city, street and number.
        - Telephone number.
        - Number of Departments.
        - Number of employees.

    3. *warehouses*:
        - **warehouse ID**.
        - Address, city, street and number.
        - Number of Waiter´s Warehouses.

    4. *departments*:
        - A **Departaments ID**, for being identified.
        - Number of employees.
        - Number of product.
    5. *Webs*:
        - **URL**, is the identifier.
        - Available Languages.
        - Name.
        - Number of users.

-Date of creation.

6. *maintenance service*:

    -**Maintenance ID,** is the identifier.

    -Number of computers.

    -Number of workers.

- **The administrative part**:

    1.*directors*:

        - **Director ID**.

        - Telephone.

        - The age.

        - The name.

        - The gender.

        - The studies they have and the seniority.

    2.*managers*:

        -**Manager identification**.

        -Telephone.

        -The address.

        -The name.

        -The age.

        -The studies they have and the seniority.

    3. *dependent*:

        - An unique identifier inside the store, **Dependent ID**.

        - The name.

        -The age.

        - The gender.

        - A telephone.

        - The address.

        - The studies they have and the seniority.

    4. *advisors*:

- An identifier, **Advisors ID**.

- A search number that allows them to control the fitting rooms in case that a client needs them.

-A telephone number.

- The name.

-The age.

- The gender.

- The address.

-The studies they have and the seniority.

5. *waiter's warehouse*:

- An identifier, **waiter´s warehouse ID**.

- The name.

- The age.

-A beeper to locate them within the company.

- The address

- The studies they have and the seniority.

6. *Computer engineer*:

-**Computer Engineer ID**.

- Telephone.

7. *Administrative*:

-**Administrative ID**.

-Telephone.

8. *Carrier*:

-**Carrier ID**.

-Telephone.

● The **part of purchases**:

1.*Physical customers*:

- A **purchase ID**.

- The name.
- The surname.

2.The *Cyber customers*:
-**Ciber ID**.
-The credit card number.
-The address.

- The **part of products**:
-A **product ID**.
-An identifier of the section to which it belongs.
-The size.
-The model.
-the materials.

B) Relationship Sets.

1. CUSCLA: Customers-Claims.
2. DEPDEP: Departaments-Dependents.
3. MAICOM: Maintenance Service-Computer Engineer
4. CYBWEB:Ciber-Web.
5. TRACYB:Transport- Ciber.
6. SALES : Customer- Product
7. PRODEP:Product-departments
8. MAIWEB :Maintenance Service- Web
9. EMPSAL :Employees- Salary.
10. TRACAR:Transport-Carrier.
11. DEPSHO :Dependents-showcases.
12. WARWAI:Warehouse-Waiter´s Warehouse
13. TRAWAR :Transport-Warehouse
14. STOSHO:Store- Showcases
15. TRASTO :Transport-Store.
16. STOWAR:Store-Warehouse.

17. DEPADV:Departments- Advisor.
18. DEPMAN:Departments-Manager.
19. STOSEC:Store-Security Guards.
20. STODEP:Store-Departments.
21. HEAADM:Headquarters-Administrative.
22. MAIHEA:Maintenance service-Headquarters.
23. HEADIR: Headquarters-Directors.
24. STOHEA: Store-Headquarters.
25. HEATRA: Headquarters-Transport.
26. PRODEP:Products-Departments.
27. PROWAR:Product-Warehouse.
28. PHYDEP:Physical-Departments.

KEYS

They are underlined and bold in Entities Sets Part.

WEAK ENTITIES.

1. The *Salary* is the amount in euros that each employee receives monthly. Has:
    a. -Quanty.
    b. -Extra Payments.
2. *Claims*, complaints that customers may present, has:
    a. -Claim code.
    b. -Date.
    c. -Employee attends.
    d. -Name.
3. *Transport companies*, are the set of companies that are responsible for transporting the products both customers who buy online (Ciber), as the physical store itself. Has:
    a. -Shipment ID.
    b. -Mode of transport.
    c. -Destination.
    d. -Date.
    e. -Cost.
4. *Showcases*, where the new products of the store are displayed. Has:
    a. -Weather.
    b. -Season.

MAKE IT INTERNATIONAL

Our clothes store works in many different countries. It has many physic stores all over the world. So this internalization doesn't affect too much to our databases. In addition, employees have a unique identify number throughout the company, regardless the country of origin. Customers, instead of using the ID that doesn't exist in all the countries, they use a customerID.