# sUniwersytet im. Adama Mickiewicza w Poznaniu Wydział Matematyki i Informatyki



ONLINE HARDWARE STORE

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## **Description of the database**

The primary purpose of the database is the handling the interaction of customer and shop via the Net

**The assumptions are following:**

1. Each customer has own ID and can have only one Cart where the order data is kept
2. Customers may buy from different countries
3. Each product belongs to one category and also has one manufacturer
4. The product may have a discount, it’s unnecessary
5. There are 2 ways of payments for the order( debit card or web wallet)
6. Debit card may be Visa or Mastercard, web wallet – Paypal or Qiwi

The database consists of **7 following tables:**

1. Customers – info about shop customers
2. Products – info about production of shop
3. CARTS (dynamic table) – info about customers’ order
4. Categories – info about type of product in the shop e.g. TV, Laptop etc.
5. Manufacturers – info about product manufacturer e.g. Apple, Samsung etc.
6. Cart\_Orders – info about products in the cart of each customer
7. Payments\_Info – info about payments

### The reports are as follows:

1. Number of products bought from certain country
2. Customers’ age – shows how old is the customer
3. Order total cost – shows total cost of one certain order (sum of products’ prices in one cart)
4. Order total cost including discount of product ( if it has one)
5. Top most popular manufacturers among customers (products of which are frequently bought) regardless category

## **Table descriptions**

Table Customers

|  |  |  |  |
| --- | --- | --- | --- |
| Link | Column | Description | Data type |
| PK | ID | Customer’s identifier | INT |
|  | Name | Customer’s Name | VARCHAR(20) |
|  | Birth\_Date | Date of birth | DATE |
|  | Email | Mail adress | VARCHAR(20) |
|  | Country | Order country | VARCHAR(20) |

Table Products

|  |  |  |  |
| --- | --- | --- | --- |
| Link | Column | Description | Data type |
| PK | Product\_ID | Product identifier | INT |
|  | Name | Product name | VARCHAR(20) |
|  | Price($) | Price in $ | MONEY |
|  | Discount(%) | Discount amount in % | FLOAT |
| FK | Manufacturer\_ID | Manufacturer identifier | VARCHAR(20) |
| FK | Category\_ID | Category identifier | VARCHAR(20) |

Table **CARTS**(dynamic)

|  |  |  |  |
| --- | --- | --- | --- |
| Link | Column | Description | Data type |
| PK | Cart\_ID | Cart identifier | INT |
| FK | Customer\_ID | Customer identifier | INT |
| FK | Payment\_ID | Payment identifier | INT |
|  | Order\_Date | Date of making order | DATE |

Table Categories

|  |  |  |  |
| --- | --- | --- | --- |
| Link | Column | Description | Data type |
| PK | Category\_ID | Category identifier | INT |
|  | Name | Name | VARCHAR(20) |

Table Manufacturers

|  |  |  |  |
| --- | --- | --- | --- |
| Link | Column | Description | Data type |
| PK | Man\_ID | Manufacturer identifier | INT |
|  | Name | Name | VARCHAR(20) |

TableCart\_Orders

|  |  |  |  |
| --- | --- | --- | --- |
| Link | Column | Description | Data type |
| FK | Product\_ID | Product identifier | INT |
| FK | Order\_ID | Cart(Order) identifier | INT |

Table Payments\_Info

|  |  |  |  |
| --- | --- | --- | --- |
| Link | Column | Description | Data type |
| PK | Payment\_ID | Payment identifier | INT |
|  | Payment\_Method | Debit card of web wallet | VARCHAR(20) |
|  | Payment\_Service | Type of card or wallet | VARCHAR(20) |

## **Description of Reports**

### Number of products bought from certain country by month of purchase

Procedure "Products\_Per\_Country" is used for this report. Country and Order date are taken as a parameters. In output we have number of products which were bought from certain country

This info is helpful for advertising of product in further work

### Order total cost

View "Total\_Cost" is used for this report. This report calculates the sum of all products in one order (cart) made by customer and shows the payment method (Paypal or credit card). It makes payment for customer easier (he doesn’t have to calculate it by himself)

### Order total cost including discount

View "With\_Discount" is used for this report. This report includes current discounts of products in total cost of order and shows order’s cost with discount. It may seem that having this view , there’s no sense in “Total\_Cost”. However, it helps customer to consider the saved money

### Customers’ age

Procedure "Age" is used for this report. Two integers ( Birth\_Date and Order\_Date) are used as parameters. In output we have age of each customer. It used for statistics and further add

### Top most popular manufacturers among customers

Procedure "Top3\_Most\_Popular\_Manufacturers" is used for this report. Parameter is Manufacturer ID. As output we have 3 manufacturer grouped by frequency of purchasing their products sorted in descending order( Top 3) It’s vital for further supply choice

## **ERD Diagram**

**![A close up of text on a white background

Description automatically generated]()**