

Step 1: Database Design

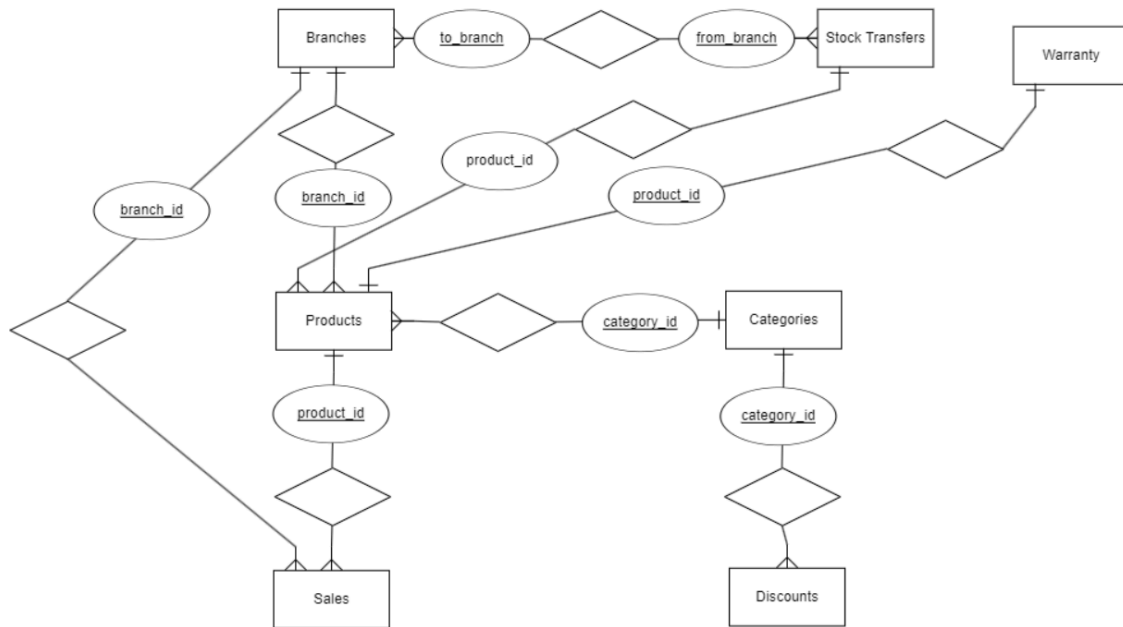
Database Design:

- Manage the branches: Keep track of branch id, branch name, and each branch location.
 - ❖ Table: branch(branch_id, branch_name, branch_loc)
 - ❖ Example: branch_id=1, branch_name='Main Branch', branch_loc='City Center'
- Manage the inventory/products: Keep track of stock levels, product categories, and restocking needs for each branch.
 - ❖ Table: product(product_id, product_name, brand, price, stock, category_id, branch_id)
 - ❖ Example: product_id=1, product_name='iPhone 15', brand='Apple', price=999.99, stock=50, category_id=1, branch_id=1
- Track sales: Monitor daily sales transactions, identify top-selling products, and ensure accurate financial records.
 - ❖ Table: sales(sale_id, sale_date, product_id, quantity, total_price, branch_id)
 - ❖ Example: sale_id=1, sale_date='2024-12-01', product_id=1, quantity=1, total_price=999.99, branch_id=1
- Provide warranty tracking: Keep track of warranty details for sold items to handle customer inquiries and claims.
 - ❖ Table: warranty(warranty_id, product_id, warranty_period, warranty_start_date)
 - ❖ Example: warranty_id=1, product_id=1, warranty_period=12, warranty_start_date='2024-12-01'
- Product categories: Organize products into categories for easier management and reporting.
 - ❖ Table: categories(category_id, category_name)
 - ❖ Example: category_id=1, category_name='Smartphones'
- Discounts and Promotions: Manage discounts and promotions for specific products or during sales events. Ideally, if the transaction happened during the discount period, there will be a drop on the product price.
 - ❖ Table: discount(discount_id, category_id, discount_percentage, start_date, end_date)
 - ❖ Example: discount_id=1, category_id=1, discount_percentage=10, start_date='2024-12-01', end_date='2024-12-31'
- Stock transfers between different branches: Allow transferring stock from one branch to another when needed, such as when the branch 1 stockouts for a certain product, we may consider transferring stock from the branch 2.
 - ❖ Table: stock_transfer(transfer_id, product_id, from_branch, to_branch, transfer_quantity, transfer_date)

- ❖ Example: `transfer_id=1, product_id=1, from_branch=1, to_branch=2, transfer_quantity=5, transfer_date='2024-12-02'`

Step 2: ER Diagram

I will create the ER Diagram here. This is a brief ER-Diagram, you can improve it more:



Step 3: SQL Script

Step 4: UI Screen

- Inventory management
- Sales reporting
- Warranty management
- Discounts and Promotions
- Stock transfers