RDMS Project I

American Eagle Outfitters is an international retail store with 148 locations in Canada and the United States. Just like any retail company it revolves around transactions, inventory, employees and, of course, its customers. This database will keep detailed information about everything involved in everyday business.

Without a database, American Eagle would struggle with losing track of inventory, inefficient transaction recording, missing customer information, and little to no employee sale records. With no proper inventory tracking employees cannot tell customers what is in stock or how many are left; this can result in not only a frustrated customer but a loss in sales. It leaves employees helpless to properly perform their jobs. Businesses are also unable to properly record transaction histories so activities like returns or customers trying to remember what they bought in the past become much more difficult. Keeping track of past customer purchases also provides information about the customer so the business can tailor their notifications or advertisements for things that they would like. A database would also give businesses the tool to keep customer information such as an email address and phone number so they can communicate with their customers more frequently. Without a database, businesses are also unable to keep sales statistics on their employees. Knowing which employee is selling the most can give managers the opportunity to reward employees and train those who are not performing as well. Thus making this a crucial tool for businesses, employees, and managers.

In conclusion, a database will be able to be used by employees, managers, and business owners and will provide them with the tools required in their job. It will increase sales by giving

information to an employee on a stock, provide adequate training, and customer awareness. Sales will also increase because businesses can communicate discounts and special events to their customers as well as tailor their advertisements based on past purchases. A database will also increase efficiency because managers will know when something is out of stock and to order more or if there is a hidden pile in the store. Thus, the utilization of a database in a retail business is crucial.

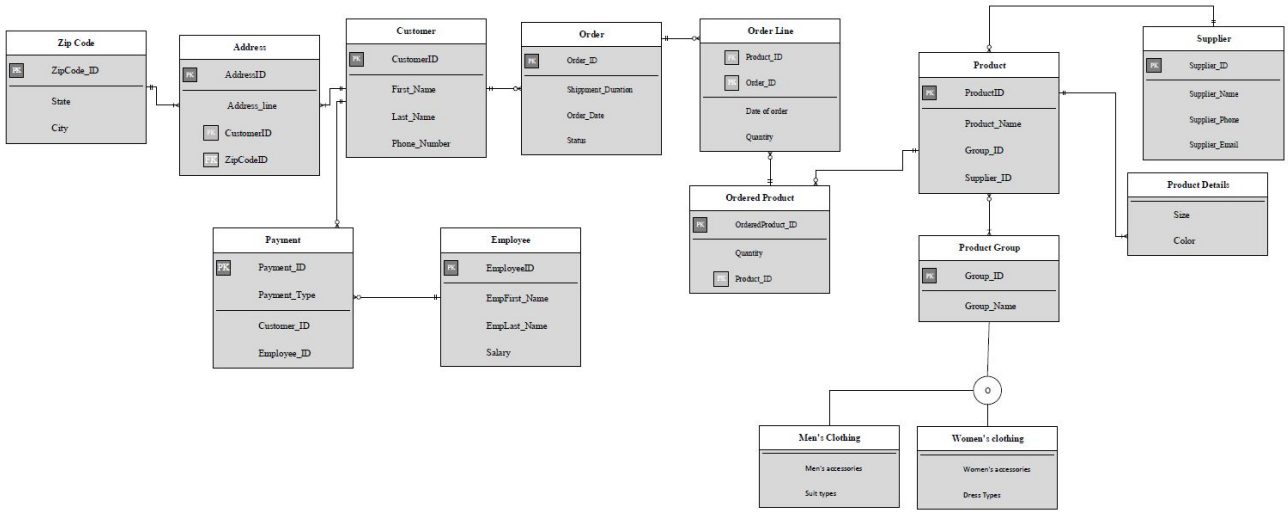
Business Rules and User Requirements:

1. A Customer can have zero to many orders. An Order can have one and only one customer.
2. Every Customer is identified by its Customer ID. Customer first name, last name, and phone number are kept in the system for every customer.
3. Each Customer has zero to many Payment. A Payment belongs to one and only one Customer.
4. A Customer has one to many Address. Each Address belongs to one and only one Customer.
5. An Address is identified by Address ID and its Address line is kept in the system. Also, Customer ID and ZipCode ID are foreign key identifier.
6. An Address has one and only one Zip Code. Each Zip Code belongs to one to many Address.
7. Zip Code is identified by its Zip Code ID and its state and city are kept in the system.
8. A Payment is identified by its Payment ID and Payment Type. Customer ID and Employee ID are kept in the system for each Payment.
9. Payment of one and only one is processed by Employee. An employee can process zero to many Payment.
10. An Employee is identified by its Employee ID. Employee first name, last name, and salary are kept in the system for each Employee.
11. Each Order is identified by its Order ID. Shipment duration, order date, and status are kept in the system.
12. Each Order has zero to many Order Line. Every Order Line is associated with one and only one Order.

13. Order Line is identified by its Product ID and Order ID. Order Line date of order and quantities are kept in the system for every Order Line.
14. Every Order Line has one and only one Ordered Product. Each Ordered Product can have zero to many Order Line.
15. Ordered Product is identified by its Ordered Product ID. Ordered Product quantity, product price, and foreign key Product ID are kept in the system for each Ordered Product. Ordered Product has a foreign key identifier Product ID, which has relation with Product.
16. Each Ordered Product is a part of one and only one Product. A product can be part of zero to many Ordered Product.
17. A product is identified by its Product ID. Product name, group id, and supplier id are kept in the system for each Product.
18. A Product has one and only one supplier. A Supplier provides zero to many Products.
19. A Supplier is identified by its Supplier ID. Supplier name, phone number and email are kept in the system for each Supplier.
20. A Product has one or many Product Details. Every Product Details (size and color) has details of one only one Product.
21. Every Product is part of one and only Product Group. A Product Group has zero to many Product.
22. Product Group is identified by its Group ID. Group ID name is kept in the system for each Product Group.
23. A Product Group has two subtypes: Men's clothing and Women's Clothing.
24. Men's clothing keeps men's accessories and suits types in the system. For Women's clothing, women's accessories and dress types are kept in the system.

User Requirements:

1. A user can create a customer account.
2. A user can edit their personal profile with a new address or payment.
3. A user can create a new order.
4. A user can view order history.
5. A user can check order status.



Identification of Entities:

- Employee
- Customer
- Address
- Zip Code
- Order
- Order Line
- Order Product
- Product
- Product Group
- Men’s Clothing
- Women’s Clothing
- Product Description
- Supplier

 Employee-Any person who is employed as a part of company staff. Attributes: EmployeeID, EmpFirst_Name, EmpLast_Name, Salary.

 Customer -A person who buys products with cash or credit card. Attributes: CustomerID, First_Name, Last_Name, Phone_Number

 Address -Address to with a particular order must be delivered. Attributes: AddressID, Address_line

 Zip Code -Zip details of customers address is included. Attributes: ZipCode, City, State

 Payment- This table holds payment and payment type. Attributes: Payment_ID, Payment_Type,

 Order – This table hold the status of the order whether the order is delivered or not and the shipment option given by the customer. Attributes: Order_ID,Shippment_Duration, Order_Date, Status.

 Order Line - OrderLine contains the details like date and quantity of items purchased. Attributes: Date of Order, Quantity

 Ordered Product- This contains the details of quantity of product that customer ordered. Attributes: OrderProduct_ID, Quantity

 Product -It is a form of good that is purchased by customer. Attributes: ProductID, Product_Name, Group_ID, Supplier_ID.

 Product Details – Product details contains the description of particular product. Attributes: Size, Color

 Product Group – Product group tells to which category the product belongs to. Attributes: Group_ID, Group_Name

Men's Clothing - Part of the Product group includes clothes that meant for men. Attributes: Men's accessories, Suit types

Women's Clothing - Part of the Product group includes clothes that meant for women. Attributes: Women's accessories, Dress Types

 Supplier- Any person or entity that supplies products. Attributes: Supplier_ID, Supplier_Name, Supplier_Phone

Relationships:

Zip code is in the address

Customer will have an address

Customer places an order

Order contains order line

Order line lists ordered product

Product is supplied by a supplier

Product has product details

Product belongs to a group

Product group can be men’s or women’s clothing

Customer makes a payment

Employee processes a payment