Design a Relational Database for Smart Toys Co.

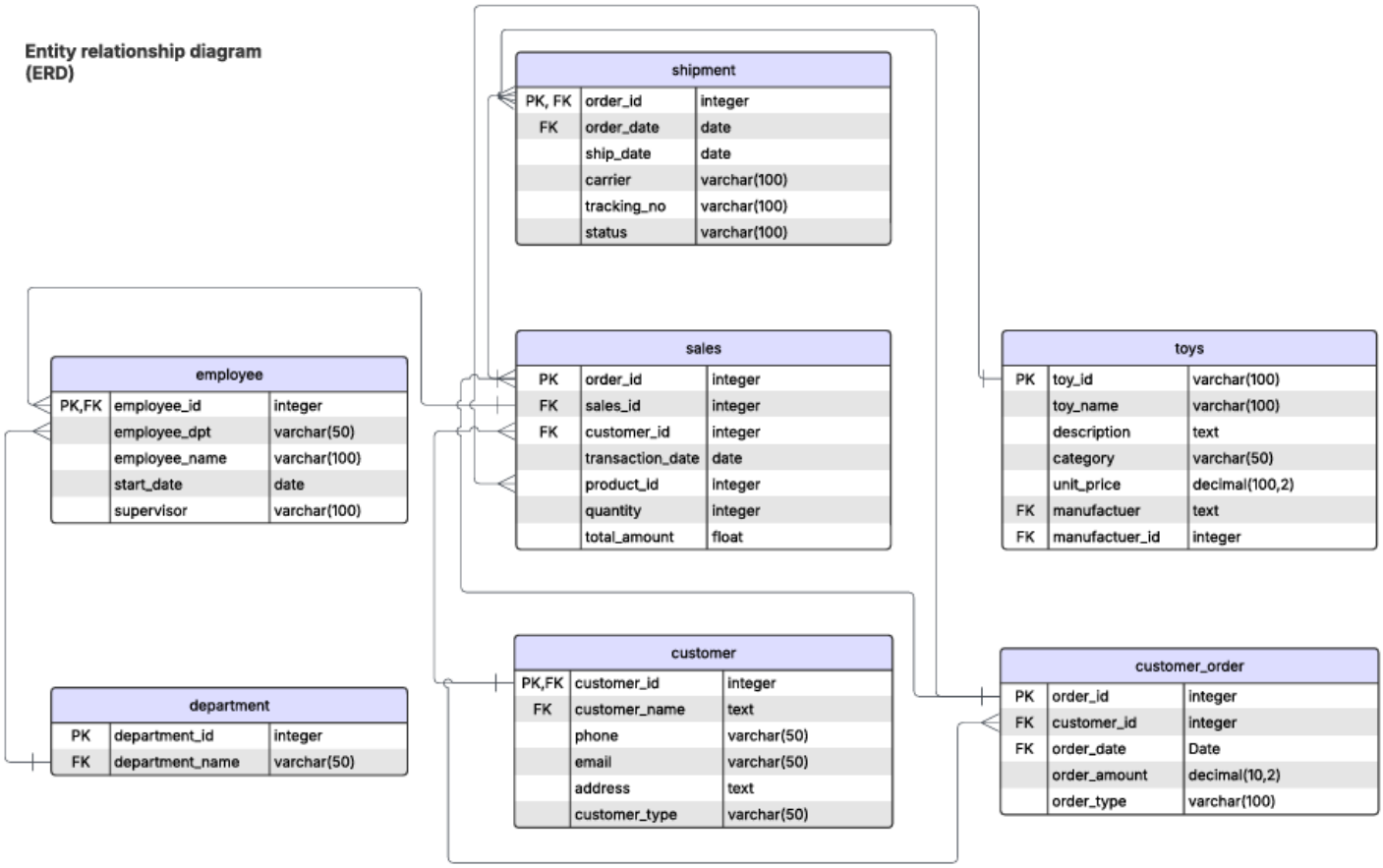
This project consists of 3 parts, including:

Part I: Design the database schema that defines the key entities and their relationships.

Part II: Construct a relational database and tables.

Part III: Write queries to answer business questions.

Part I: Design the Database Schema



Part II: Create a Relational Database

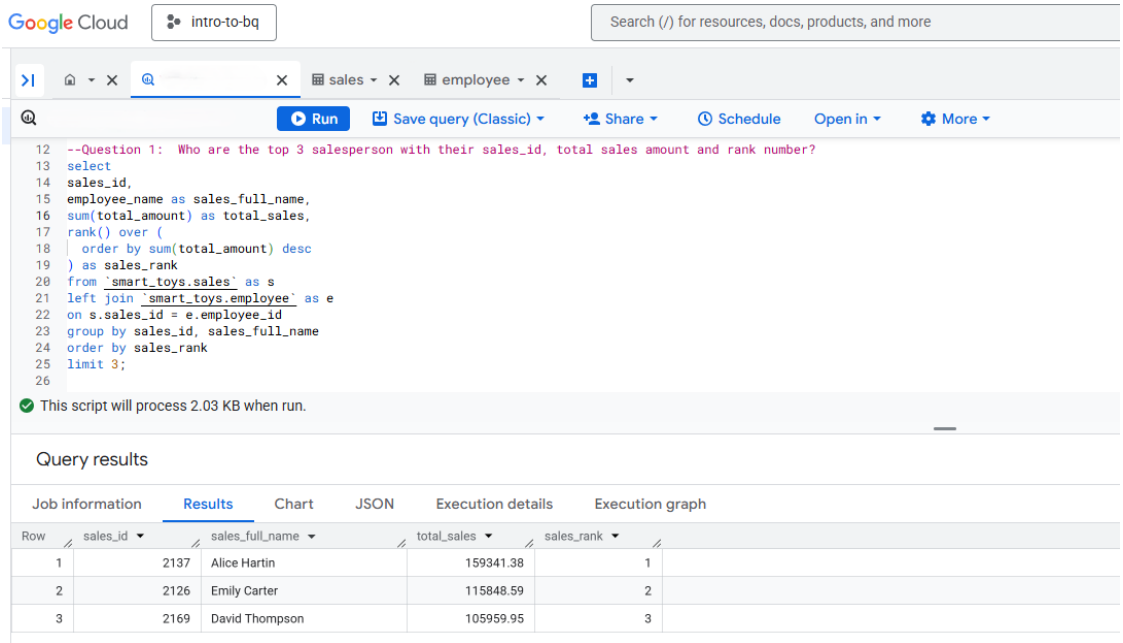
```
CREATE TABLE `customer` (
  `customer_id` integer,
  `customer_name` text,
  `phone` varchar(50),
  `email` varchar(50),
  `address` text,
  `customer_type` varchar(50),
 PRIMARY KEY (`customer_id`)
);
```

```
CREATE TABLE `customer_order` (
  `order_id` integer,
  `customer_id` integer,
  `order_date` Date,
  `order_amount` decimal(10,2),
  `order_type` varchar(100),
 PRIMARY KEY (`order_id`),
 FOREIGN KEY (`customer_id`)
    REFERENCES `customer`(`customer_id`)
);

CREATE TABLE `toys` (
  `toy_id` varchar(100),
  `toy_name` varchar(100),
  `description` text,
  `category` varchar(50),
  `unit_price` decimal(100,2),
  `manufactuer` text,
  `manufactuer_id` integer,
 PRIMARY KEY (`toy_id`)
);

CREATE TABLE `sales` (
  `order_id` integer,
  `sales_id` integer,
  `customer_id` integer,
  `transaction_date` date,
  `product_id` integer,
  `quantity` integer,
  `total_amount` float,
 PRIMARY KEY (`order_id`),
 FOREIGN KEY (`product_id`)
    REFERENCES `toys`(`toy_id`),
 FOREIGN KEY (`customer_id`)
    REFERENCES `customer`(`customer_id`),
 FOREIGN KEY (`order_id`)
    REFERENCES `customer_order`(`order_id`)
);

CREATE TABLE `shipment` (
  `order_id` integer,
  `order_date` date,
  `ship_date` date,
  `carrier` varchar(100),
  `tracking_no` varchar(100),
  `status` varchar(100),
 PRIMARY KEY (`order_id`),
 FOREIGN KEY (`order_id`)
    REFERENCES `sales`(`order_id`),
 FOREIGN KEY (`order_id`)
```

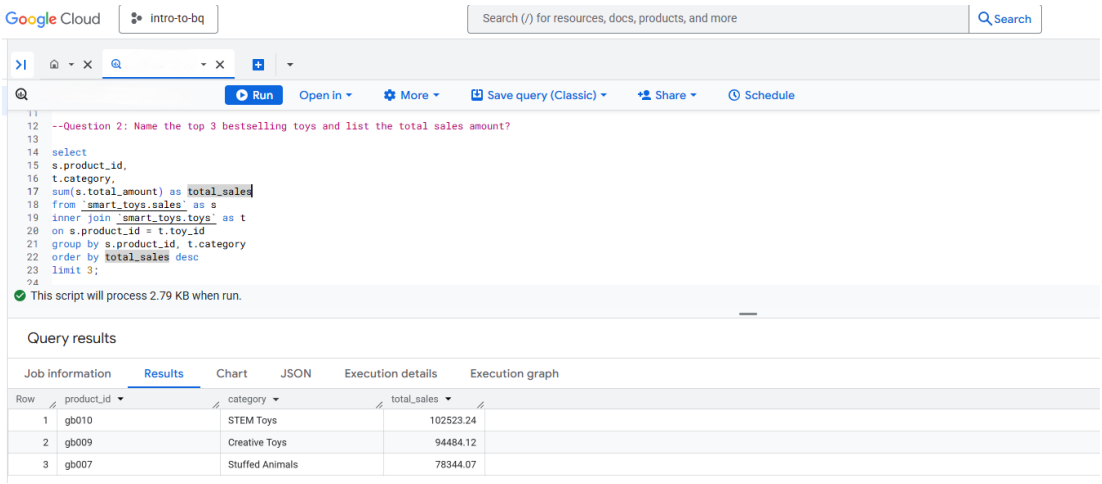
```
    REFERENCES `customer_order`(`order_id`)
);

CREATE TABLE `department` (
  `department_id` integer,
  `department_name` varchar(50),
 PRIMARY KEY (`department_id`)
);

CREATE TABLE `employee` (
  `employee_id` integer,
  `employee_dpt` varchar(50),
  `employee_name` varchar(100),
  `start_date` date,
  `supervisor` varchar(100),
 PRIMARY KEY (`employee_id`),
 FOREIGN KEY (`employee_dpt`)
    REFERENCES `department`(`department_name`),
 FOREIGN KEY (`employee_id`)
    REFERENCES `sales`(`sales_id`)
);
```

Part III: Query Data

Question 1: Who are the top 3 salesperson with sales_id, what is their total sales and corresponding sales rank?



Question 2: What are the top 3 bestselling toys, their categories, and the total sales amount?



Question 3: What is the average shipping duration for each carrier and total shipment?