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// Create the CATEGORY collection
db.createCollection("CATEGORY", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Category_ID", "Category_Name"],
      properties: {
        Category_ID: { bsonType: "int" },
        Category_Name: { bsonType: "string" }
      }
    }
  }
});
db.CATEGORY.createIndex({ Category_ID: 1 }, { unique: true });

// Create the BRAND collection
db.createCollection("BRAND", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Brand_ID", "Brand_Name"],
      properties: {
        Brand_ID: { bsonType: "int" },
        Brand_Name: { bsonType: "string" }
      }
    }
  }
});
db.BRAND.createIndex({ Brand_ID: 1 }, { unique: true });

// Create the SUPPLIER collection
db.createCollection("SUPPLIER", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Supplier_ID", "Supplier_Name", "Contact_Info"],
      properties: {
        Supplier_ID: { bsonType: "int" },
        Supplier_Name: { bsonType: "string" },
        Contact_Info: { bsonType: "string" }
      }
    }
  }
});
db.SUPPLIER.createIndex({ Supplier_ID: 1 }, { unique: true });

// Create the PRODUCT collection
db.createCollection("PRODUCT", {
  validator: {
    $jsonSchema: {

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        bsonType: "object",
        required: ["Product_ID", "Product_Name", "Category_ID", "Brand_ID",
"Supplier_ID"],
        properties: {
            Product_ID: { bsonType: "int" },
            Product_Name: { bsonType: "string" },
            Category_ID: { bsonType: "int" },
            Brand_ID: { bsonType: "int" },
            Supplier_ID: { bsonType: "int" }
        }
    }
}
});

db.PRODUCT.createIndex({ Product_ID: 1 }, { unique: true });

// Create the LOCATION collection
db.createCollection("LOCATION", {
    validator: {
        $jsonSchema: {
            bsonType: "object",
            required: ["Location_ID", "Address", "City", "State", "Region"],
            properties: {
                Location_ID: { bsonType: "int" },
                Address: { bsonType: "string" },
                City: { bsonType: "string" },
                State: { bsonType: "string" },
                Region: { bsonType: "string" }
            }
        }
    }
});
db.LOCATION.createIndex({ Location_ID: 1 }, { unique: true });

// Create the MANAGER collection
db.createCollection("MANAGER", {
    validator: {
        $jsonSchema: {
            bsonType: "object",
            required: ["Manager_ID", "Manager_Name", "Contact_Info"],
            properties: {
                Manager_ID: { bsonType: "int" },
                Manager_Name: { bsonType: "string" },
                Contact_Info: { bsonType: "string" }
            }
        }
    }
});
db.MANAGER.createIndex({ Manager_ID: 1 }, { unique: true });

// Create the STORE collection

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db.createCollection("STORE", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Store_ID", "Store_Name", "Location_ID", "Manager_ID"],
      properties: {
        Store_ID: { bsonType: "int" },
        Store_Name: { bsonType: "string" },
        Location_ID: { bsonType: "int" },
        Manager_ID: { bsonType: "int" }
      }
    }
  }
});
db.STORE.createIndex({ Store_ID: 1 }, { unique: true });

// Create the DEMOGRAPHIC collection
db.createCollection("DEMOGRAPHIC", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Demographic_ID", "Gender", "Age_Group"],
      properties: {
        Demographic_ID: { bsonType: "int" },
        Gender: { bsonType: "string" },
        Age_Group: { bsonType: "string" }
      }
    }
  }
});
db.DEMOGRAPHIC.createIndex({ Demographic_ID: 1 }, { unique: true });

// Create the CONTACT_INFO collection
db.createCollection("CONTACT_INFO", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Contact_Info_ID", "Email", "Address"],
      properties: {
        Contact_Info_ID: { bsonType: "int" },
        Email: { bsonType: "string" },
        Address: { bsonType: "string" }
      }
    }
  }
});
db.CONTACT_INFO.createIndex({ Contact_Info_ID: 1 }, { unique: true });

// Create the CUSTOMER collection
db.createCollection("CUSTOMER", {

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validator: {
  $jsonSchema: {
    bsonType: "object",
    required: ["Customer_ID", "Demographic_ID", "Contact_Info_ID"],
    properties: {
      Customer_ID: { bsonType: "int" },
      Demographic_ID: { bsonType: "int" },
      Contact_Info_ID: { bsonType: "int" }
    }
  }
}
});

db.CUSTOMER.createIndex({ Customer_ID: 1 }, { unique: true });

// Create the PROMOTION_TYPE collection
db.createCollection("PROMOTION_TYPE", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Type_ID", "Type_Name"],
      properties: {
        Type_ID: { bsonType: "int" },
        Type_Name: { bsonType: "string" }
      }
    }
  }
});
db.PROMOTION_TYPE.createIndex({ Type_ID: 1 }, { unique: true });

// Create the PROMOTION collection
db.createCollection("PROMOTION", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: ["Promotion_ID", "Promotion_Name", "Type_ID", "Start_Date",
      "End_Date"],
      properties: {
        Promotion_ID: { bsonType: "int" },
        Promotion_Name: { bsonType: "string" },
        Type_ID: { bsonType: "int" },
        Start_Date: { bsonType: "date" },
        End_Date: { bsonType: "date" }
      }
    }
  }
});
db.PROMOTION.createIndex({ Promotion_ID: 1 }, { unique: true });

// Create the DATE_DIM collection
db.createCollection("DATE_DIM", {

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validator: {
  $jsonSchema: {
    bsonType: "object",
    required: ["Date_ID", "Date", "Day", "Month", "Quarter", "Year"],
    properties: {
      Date_ID: { bsonType: "int" },
      Date: { bsonType: "date" },
      Day: { bsonType: "string" },
      Month: { bsonType: "string" },
      Quarter: { bsonType: "string" },
      Year: { bsonType: "string" }
    }
  }
}
});

db.DATE_DIM.createIndex({ Date_ID: 1 }, { unique: true });

// Create the SALES_FACT collection
db.createCollection("SALES_FACT", {
  validator: {
    $jsonSchema: {
      bsonType: "object",
      required: [
        "Sales_ID",
        "Product_ID",
        "Store_ID",
        "Date_ID",
        "Customer_ID",
        "Promotion_ID",
        "Quantity_Sold",
        "Sales_Amount",
        "Discount_Amount",
        "Total_Cost"
      ],
      properties: {
        Sales_ID: { bsonType: "int" },
        Product_ID: { bsonType: "int" },
        Store_ID: { bsonType: "int" },
        Date_ID: { bsonType: "int" },
        Customer_ID: { bsonType: "int" },
        Promotion_ID: { bsonType: "int" },
        Quantity_Sold: { bsonType: "int" },
        Sales_Amount: { bsonType: ["double", "decimal"] },
        Discount_Amount: { bsonType: ["double", "decimal"] },
        Total_Cost: { bsonType: ["double", "decimal"] }
      }
    }
  }
});
db.SALES_FACT.createIndex({ Sales_ID: 1 }, { unique: true });

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// Create indexes on foreign keys for efficient queries (optional)
db.PRODUCT.createIndex({ Category_ID: 1 });
db.PRODUCT.createIndex({ Brand_ID: 1 });
db.PRODUCT.createIndex({ Supplier_ID: 1 });

db.STORE.createIndex({ Location_ID: 1 });
db.STORE.createIndex({ Manager_ID: 1 });

db.CUSTOMER.createIndex({ Demographic_ID: 1 });
db.CUSTOMER.createIndex({ Contact_Info_ID: 1 });

db.PROMOTION.createIndex({ Type_ID: 1 });

db.SALES_FACT.createIndex({ Product_ID: 1 });
db.SALES_FACT.createIndex({ Store_ID: 1 });
db.SALES_FACT.createIndex({ Date_ID: 1 });
db.SALES_FACT.createIndex({ Customer_ID: 1 });
db.SALES_FACT.createIndex({ Promotion_ID: 1 });
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