Product

Regular entity set with the attributes (ProductID, modelNumber, name, brand, productDescription, price) where its primary key is (ProductID, modelNumber) and it has a many to one relationships with Warranty, Promotion, Review and Seller as well as a many to many relationships with Order and Category. Primary key of (ProductID, modelNumber) chosen under the assumption that both help uniquely identify a product (ex. ProductID may identify a product with many variants that differ based on colour and to help further distinguish products a modelNumber attribute would be needed).

Warranty

 Regular entity set with the attributes (warrantyID, duration, type) and it has a many to one relationship with Product.

Promotion

 Weak entity set with the attributes (promoName, startDate, and endDate) and it has a many to one relationship with the Product relation. Since this relation is a weak entity it references the Product relation which means it's foreign key is (productID, modelNumber) (primary key of the product relation)

Order

Regular entity set with the attributes (orderTime, orderDate, orderID, productQuantity)
and a primary key (orderID). It has a many to many relationship with the Shipment and
Product entity sets as well as a many to one relationship with the Customer entity (a
subclass of person).

• Shipment

 Regular entity set with the attributes (trackingNumber, carrier, deliveryDate) and a primary key (trackingNumber). It has a many to one relationship with the Order entity set.

Category

Regular entity set with the attributes (Identifier, categoryDescription, categoryName)
and the primary key (Identifier). It has a many to many relationship with the Product
entity set.

Person

 Hierarchal entity set with attributes Person(postalCode, country, city, street, surname, firstname, dateOfBirth, and gender) which is the superclass of the hierarchy and it has a many to one relationship with the Phone entity set.

Owner

Subclass of the Person entity set, contains all attributes of Person(postalCode, country, city, street, surname, firstname, dateOfBirth, and gender) with the primary key (surname, firstname, dateOfBirth) and the additional attribute of expenses. It has a many to one relationship with the Seller entity set.

o Customer

Subclass of the Person entity set, contains all attributes of Person(postalCode, country, city, street, surname, firstname, dateOfBirth, and gender) with the primary key (surname, firstname, dateOfBirth) and additional attribute of membershipNum. It has a many to one relationship with the Order entity set and weak entity set Review.

Employee

Subclass of the Person entity set, contains all attributes of Person(postalCode, country, city, street, surname, firstname, dateOfBirth, and gender) with the primary key (surname, firstname, dateOfBirth) and additional attribute of salary and yearsOfService. It has a many to many relationship with the Seller entity set.

Seller

 Regular entity set with the attributes Seller (sellerDescription, sellerID, yearJoined, URL) and a primary key of Seller (sellerID, URL). It has a many to one relationship with the Owner subclass of the Person entity set and Product entity set while also having a many to many relationship with the Employee subclass of the Person entity set.

Review

Weak entity set with the attributes Review (ratingNum, comment) and it has many to
one relationships with the Customer entity set and Product entity set. Since this relation
is a weak entity it references both the Product and Customer subclass relation which
means it's foreign key is (productID, modelNumber) (primary key of the Product
relation) and (surname, firstname, dateOfBirth) (the primary key of the Person relation
and as a result the Customer subclass).

Phone number

 Regular entity set with the attributes Phone (number, type) and it has the primary key number while having a many to one relationship with the Person superclass entity set.