HOMEWORK 9

FEATURES:

1- Buying & discount mechanism:
   a. Users owning a “fidelity card” are entitled a 20% discount.
   b. Users owning the “fidelity card” get an additional 5% discount if they have previously bought on the platform more than 100 books.
   c. Users can trade a book they own when they buy a new one. In this case, they get a 20% discount.
   d. If they also own a “fidelity card”, they get a 25% discount.
   e. Students and professors get a 10% and 15% discount, respectively. This specific discount is applied only if the user is not eligible for other discounts (fidelity card, trading book).
2- Purchase & payment system:
   a. When buying new books, users must provide a non-empty cart, their credentials, a shipping address and a valid credit card.
   b. If the credentials are correct, the systems checks the validity of the registration: if the registration is still valid, the process continues. Otherwise, the system asks to renew the registration.
   c. If the shipping address is an international address, the system adds a shipping charge.
   d. Finally, the system processes the credit card data. If the provided expiration date is not valid, the system asks for new data. Otherwise, it sends the data to an external payment service and waits for an acknowledgement. If the external service communicates that the payment has been successfully completed, the process terminates. Otherwise, the system reports the anomaly and asks for a new credit card.
3- DTD scheme:
   a. <!ELEMENT books (book+)>
      <!ELEMENT book (title, author+,year,rating+,review+,price-new,price-pre-owned)>
      <!ELEMENT title (#PCDATA)>
      <!ELEMENT author (#PCDATA)>
      <!ELEMENT year (#PCDATA)>
      <!ELEMENT rating (0|1|2|3|4|5)>
      <!ELEMENT review (#PCDATA)>
      <!ELEMENT price-new (#PCDATA)>
      <!ELEMENT price-pre-owned (#PCDATA)>

CHOSEN MODEL:

Feature 1: Decision table

FIDELITY CARD	T	T	-	T	F	F
100 BOOKS BOUGHT	-	T	-	-	F	F
TRADING BOOKS	-	-	T	T	F	F
STUDENT USER	-	-	-	-	T	F
PROFESSOR USER	-	-	-	-	F	T
Out	20%	25%	20%	25%	10%	15%

Feature 2: CFG