ERD Extra Exercise 1 – Suggested Solution

Extra Exercise 1 – Conman Insurance

Task 1 – ERD

The following, Fig. 1, is a first stage ERD for Conman Insurance - with m:n relationships. Fig. 2 shows the final ERD with these relationships resolved.
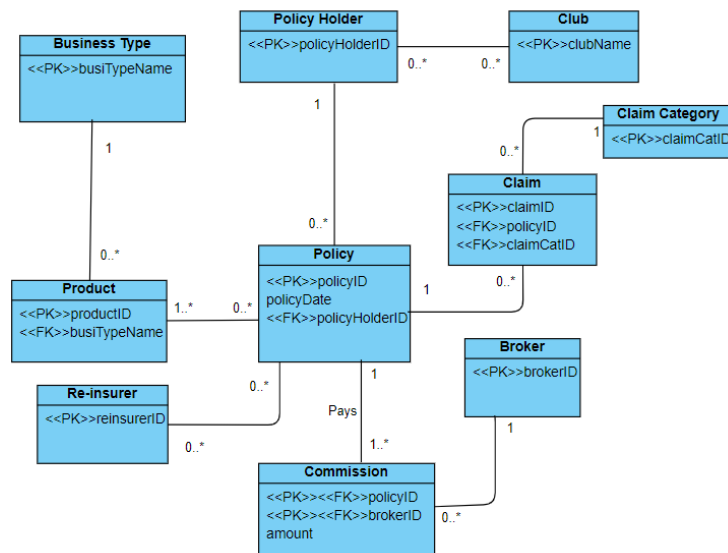

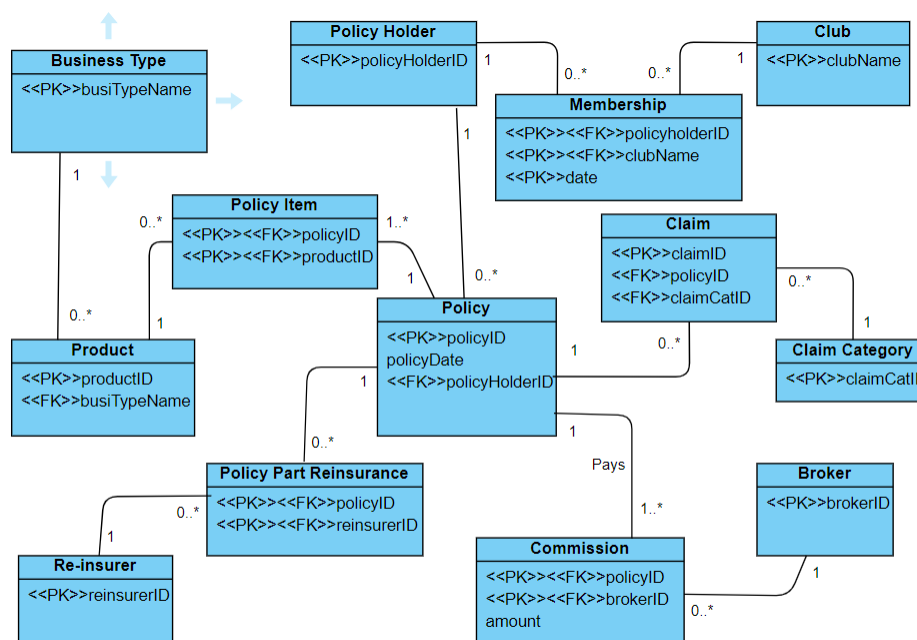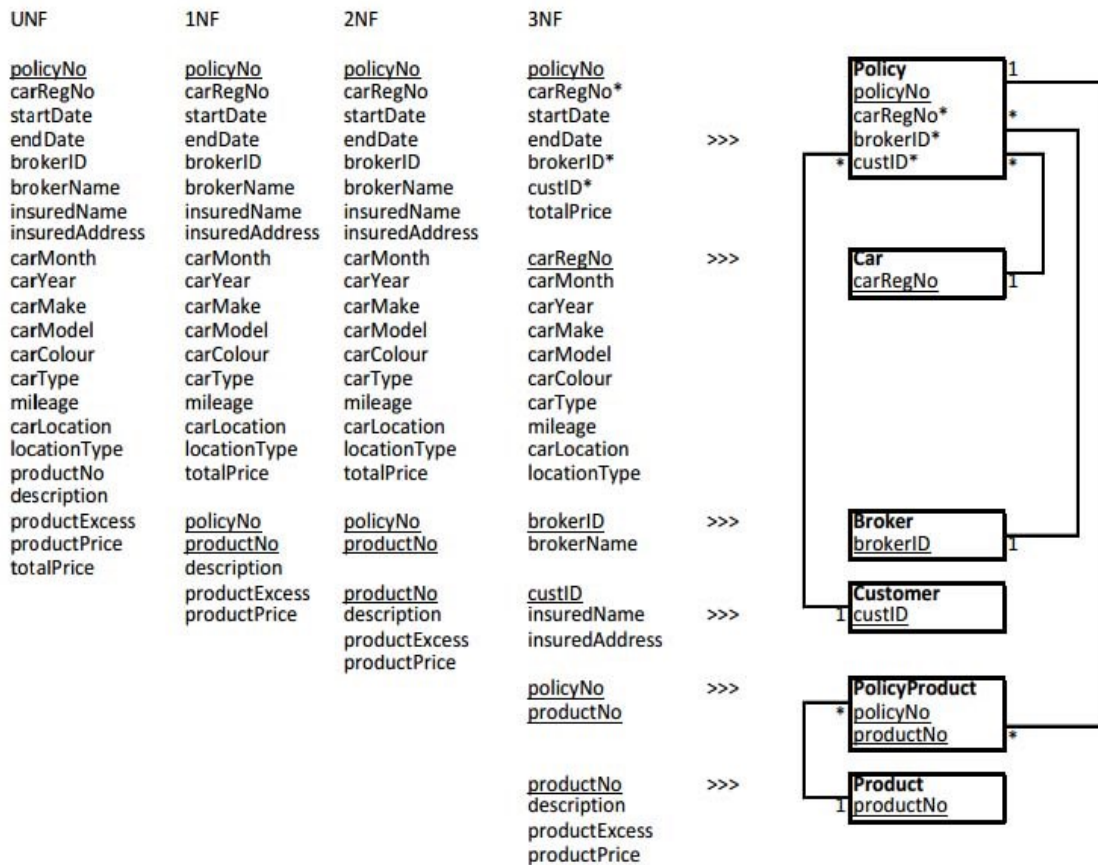Fig 1. (above) ERD for Conman Insurance - with m:n relationships.

Fig 2. (above) Final ERD for Conman Insurance. (Note that Policy Part Reinsurance entity might possibly be replaced with the Policy Item entity depending upon how the company deals with reinsurance.)

Tasks 2 & 3 – RDA – Car Insurance form

UNF	1NF	2NF	3NF			
policyNo	policyNo	policyNo	policyNo		**Policy**	1
carRegNo	carRegNo	carRegNo	carRegNo*		policyNo	
startDate	startDate	startDate	startDate		carRegNo*	*
endDate	endDate	endDate	endDate	>>>	brokerID*	
brokerID	brokerID	brokerID	brokerID*		* custID*	*
brokerName	brokerName	brokerName	custID*			
insuredName	insuredName	insuredName	totalPrice			
insuredAddress	insuredAddress	insuredAddress				
carMonth	carMonth	carMonth	carRegNo	>>>	**Car**	
carYear	carYear	carYear	carMonth		carRegNo	1
carMake	carMake	carMake	carYear			
carModel	carModel	carModel	carMake			
carColour	carColour	carColour	carModel			
carType	carType	carType	carColour			
mileage	mileage	mileage	carType			
carLocation	carLocation	carLocation	mileage			
locationType	locationType	locationType	carLocation			
productNo	totalPrice	totalPrice	locationType			
description						
productExcess	policyNo	policyNo	brokerID	>>>	**Broker**	
productPrice	productNo	productNo	brokerName		brokerID	1
totalPrice	description					
	productExcess	productNo	custID		**Customer**	
	productPrice	description	insuredName	>>>	1 custID	
		productExcess	insuredAddress			
		productPrice				
			policyNo	>>>	**PolicyProduct**	
			productNo		* policyNo	
					productNo	*
			productNo	>>>	**Product**	
			description		1 productNo	
			productExcess			
			productPrice			

Note the following assumptions have been made: 1 car per policy; 1 price per product

Note that total price is a derived attribute (from all productPrices associated with a policy) and would not need to be stored.

Note comparisons to top-down diagram from task 1:

- PolicyProduct is the same as Policy Item
- Policy holder and customer are the same
- The car insurance form does not have anything about commission and so the possible many-to-many relationship between policy and broker is not discovered from the car insurance form, and is only available by looking top-down or at other forms not given here
- Car reg is not on the top-down diagram because particular types of insurance have not been considered in detail from the top-down perspective (they are not detailed in the written scenario)