

Software Engineering

<http://proglang.informatik.uni-freiburg.de/teaching/swt/2005/>

Exercise Sheet 4

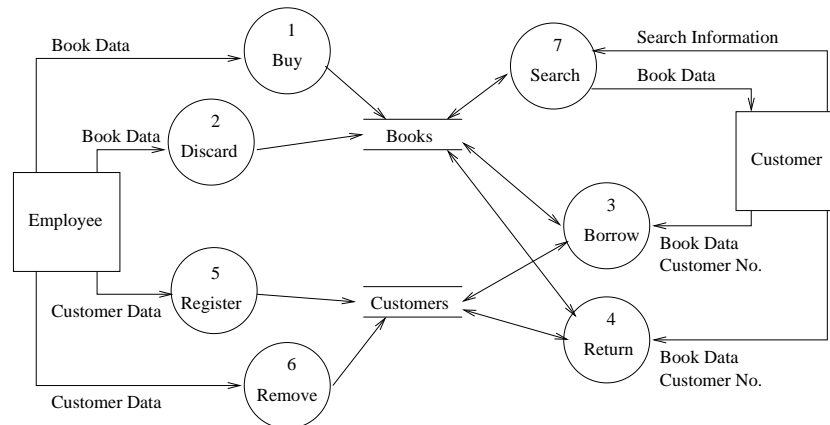
Deadline: May 10th, 2005

Exercise 1 – Data Flow Diagramm: (3 points)

Model the data flow of a library with a Data Flow Diagram.

This simplified library has employees, who can buy or sort out books, and customers, who can borrow and return books. New customers have to be registered by an employee and known customers can be removed by them. In addition, customers shall be able to search for books.

Solution:



Exercise 2 – Decision Table: (3 points)

Orders at a supplier company are executed as follows:

If the incoming payment is received within 2 weeks, 4 % discount are granted. If in addition the order value was greater than 1000 Euro, no costs for shipping are billed. If the order value was less than 50 Euro and the incoming payment was not received within 2 weeks, the shipment will be of low priority.

1. Draw a decision table which defines the actions of the company.
2. Reduce your decision table.

Solution:

DT1: Delivery		R1	R2	R3	R4	R5	R6	R7	R8
B ₁	Payment received in 2 weeks	Y	Y	Y	Y	N	N	N	N
B ₂	Order Value > 1000 Euro	Y	Y	N	N	Y	Y	N	N
B ₃	Order Value < 50 Euro	Y	N	Y	N	Y	N	Y	N
A ₁	4% Discount		X	X	X				
A ₂	charge for shipment			X	X		X	X	X
A ₃	low priority shipment							X	
A ₄	illogical	X				X			

DT1: Delivery		R2	R3/R4	R7	else
B ₁	Payment received in 2 weeks	Y	Y	N	
B ₂	Order Value > 1000 Euro	Y	N	N	
B ₃	Order Value < 50 Euro	N	-	Y	
A ₁	4% Discount	X	X		
A ₂	charge for shipment		X	X	X
A ₃	low priority shipment			X	

Exercise 3 – Class Diagramm: (4 points)

Draw a class diagram modelling the following company:

The company consists of at least one office, which can be cleaned. There is also at least one employe in the company. Every employe has a salary and their salary may be raised by *dp*. Every employe has his office, while a office may contain up to 10 employees.

There are senior and junior employees. The senior employees organize the workflow and offer good advice (of type String), while the junior employees work.

Solution:

