



Optimal shipping strategy | INFORM GmbH

Steinbuch Centre for Computing (SCC)
 Karlsruher Institut für Technologie (KIT)

Aachen, 24. August 2021



Craftsman



Craftsman



Hardware store
(Heating- and
Plumbing wholesale)



Craftsman



Hardware store
(Heating- and
Plumbing wholesale)



Warehouse



Craftsman



Hardware store
(Heating- and
Plumbing wholesale)



Warehouse



Hardware Store 1



Hardware Store 2



Hardware Store 3



Hardware Store 1



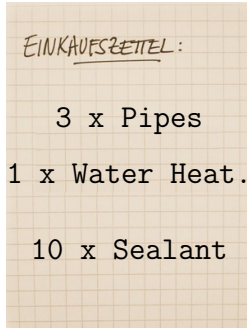
Hardware Store 2



Hardware Store 3



Warehouse



Customer Orders



Warehouse



EINKAUFSZETTEL:

5 x Water Heat.

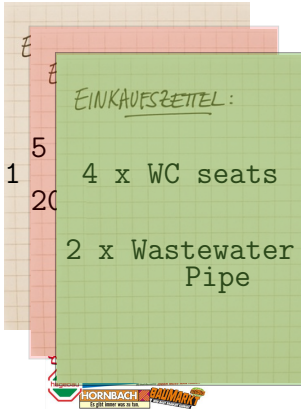
20 x Plumber W.

3 x Shower
Cabinet



Warehouse

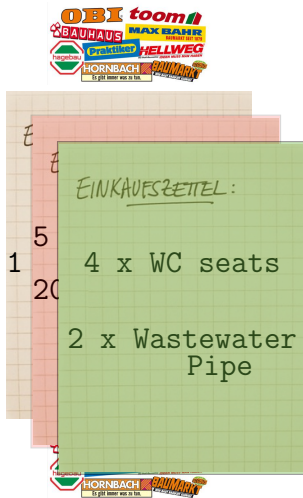
Customer Orders



Customer Orders



Warehouse



Transport

Customer Orders

Known

- Products (Pipes, baskets, pallets)
(Weight, Volume, Stackability)
- Trucks-Fleet (Amount, Volume, Size)
- Customer orders

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Wanted

- How do the products have to be loaded into the trucks?
- Goal: Algorithm that minimizes transport costs and optimizes truck utilization

Open questions:

- Can return orders also be fulfilled?
- Can the delivery sequence of the orders be kept?

Restrictions:

- Splitting a customer's order into several trucks is not allowed.