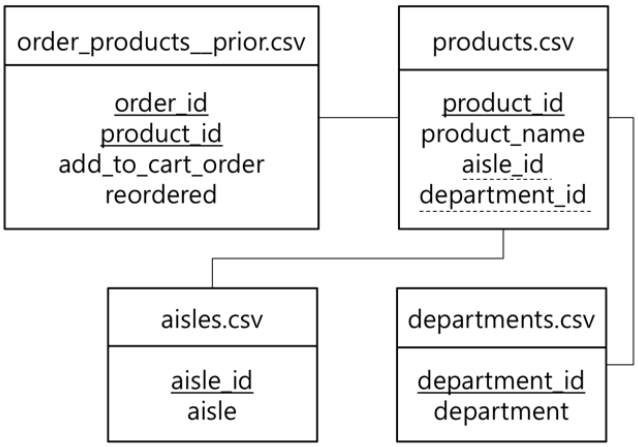
Item		Description
Course scope & objective	Course objective & content	- To learn the way of forecasting customers' repurchasing products using association rule algorithms - To recommend products to customers by analyzing repurchasing pattern based on customers past and current shopping lists - To apply for forecasting shopping lists and attribute values
	Hands-on context	Learners study association rule and creative improvement: - Learners find out frequent customers' purchasing pattern based on the data of shopping cart. - Learners get information of future purchasing products by using automatic classification method as well as association rule algorithm. - Learners use parallel distribution program for association rule calculation in massive transaction data.
Idea of hands-on problems		- Which product do customers frequently repurchase? - Which product does each customer frequently repurchase? - Which product do customers repurchase after purchasing a particular product?
Learner's role in hands-on context		A graduate who became a CTO in an online shopping company
Scenario of hands-on problems		Analysis of a market shopping cart: Forecasting repurchased product
		An online agricultural product company, opens the authentic data of more than three million customers' actual shopping carts and invites public participation for forecasting customers' repurchasing product. You, as a graduate majoring computer science at Hanyang University ERICA and a CTO in this company, want to increase profit and revenue by using company's recommendation system.

Item	Description
Problem Definition	Suppose that we are given a database consists of 1) records of orders 2) product catalog 3) aisles arrangement of products in a market 4) department in the market. Given a set of products in a basket of a customer, select some other products that probably would be purchased by the customer if recommended.
Database (ER Diagram)	Database (relations): • order_product_prior.csv: records of orders • products.csv: product table with name and where it is deployed • aisles.csv: aisle id and its name • departments.csv: department id and its name  Test data set (test.csv): Each line contains the list of products in a basket, where the product ids are separated by comma (,) For example, 13,42,45 23,23 155
Output (submission)	For each basket of test data set, recommend 5 items which is not in the basket and list them in each line of the output file (named output.txt), separated by comma (,) The items you want to recommend for the i-th line in test.csv file should be located at the i-th line in output.txt file. For example, 50,32,36,12,34 52,94,24,11,23
Evaluation	Average of precisions (P@5) over all baskets