#### **Process Mining**

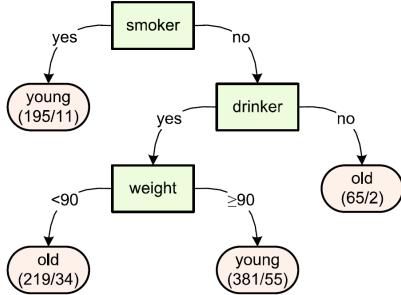


#### Lesson 1 – Data Mining Techniques

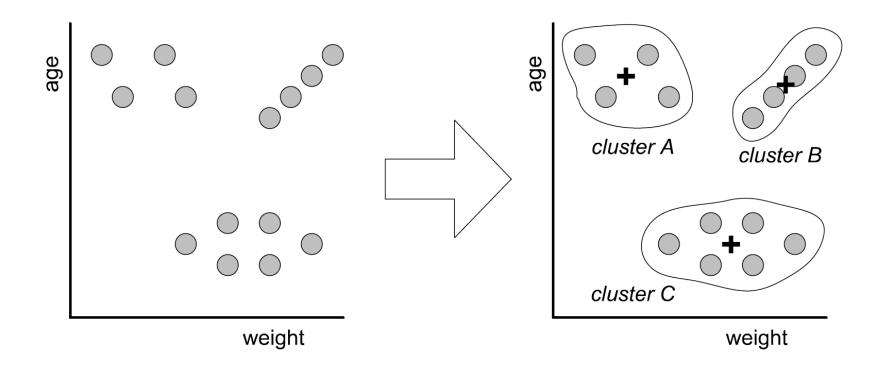
### Supervised (Decision Tree)

**Table 3.1** Data set 1: Data about 860 recently deceased persons to study the effects of drinking, smoking, and body weight on the life expectancy

Drinker	Smoker	Weight	A
Yes	Yes	120	44
No	No	70	96
Yes	No	72	88
Yes	Yes	55	52
No	Yes	94	56
No	No	62	93



### Unsupervised (Clustering)



## Supervised (Sequence Mining)

Table 3.4 A fragment of a data set used for sequence mining: each line corresponds to an order

Customer	Seq. number	Timestamp	Items
Wil	1	02-01-2011:09.02	{cappuccino}
	2	03-01-2011:10.06	{espresso, muffin}
	3	05-01-2011:15.12	{americano, cappuccino}
	4	06-01-2011:11.18	{espresso, muffin}
	5	07-01-2011:14.24	{cappuccino}
	6	07-01-2011:14.24	{americano, cappuccino}
Mary	1	30-12-2010:11.32	{tea}
	2	30-12-2010:12.12	{cappuccino}
	3	30-12-2010:14.16	{espresso, muffin}
	4	05-01-2011:11.22	$\{bagel, tea\}$
Bill	1	30-12-2010:14.32	{cappuccino}
	2	30-12-2010:15.06	{cappuccino}
	3	30-12-2010:16.34	{bagel, espresso, muffin}
	4	06-01-2011:09.18	{ristretto}
	5	06-01-2011:12.18	{cappuccino}
	•••	•••	•••

# QUESTIONS??