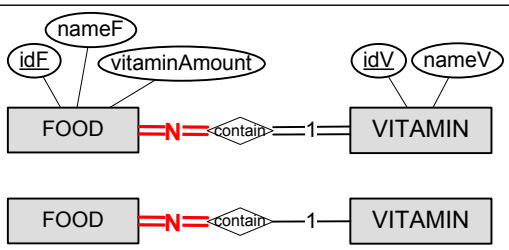
Informatics Engineering - Databases
Transformation Rules
Conceptual Model (binary relationships) ⇨ Logical Model

Conceptual Model	Logical Model

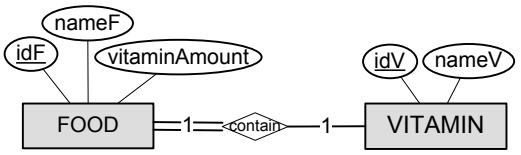


food

idF	nameF	vitaminAmount	*idVitamin*
1	Carrot	100	*1*
2	Tomato	200	*1*
3	Orange	150	*4*
...	...	...	...

vitamins

idV	nameV
1	A
2	B1
3	B12
4	C
...	...

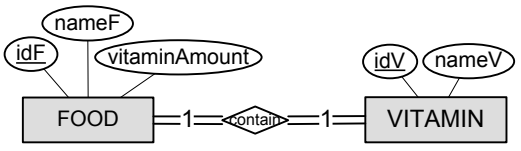


food

idF	nameF	vitaminAmount	*idVitamin*
1	Carrot	100	*1*
2	Tomato	50	*2*
3	Orange	150	*4*
...	...	...	...

vitamins

idV	nameV
1	A
2	B1
3	B12
4	C
...	...



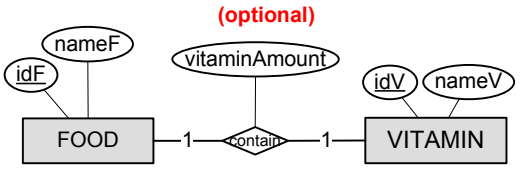
food

idF	nameF	vitaminAmount	idV	nameV
1	Carrot	100	1	A
2	Tomato	50	2	B1
3	Orange	150	4	C
...	...	...	...	...

OR

vitamins

idV	nameV	idF	nameF	vitaminAmount
1	A	1	Carrot	100
2	B1	2	Tomato	50
4	C	3	Orange	150
...	...	...	...	...



food

idF	nameF
1	Carrot
2	Tomato
3	Orange
...	...

vitamins_in_food

idFood	*idVitamin*	vitaminAmount
1	*1*	100
3	*4*	150
...	...	...

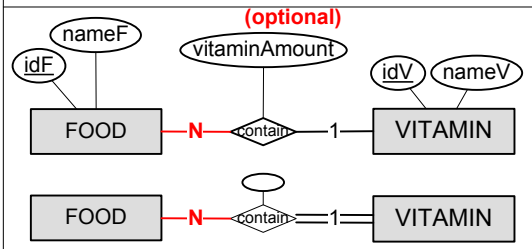
OR

vitamins_in_food

idFood	*idVitamin*	vitaminAmount
1	*1*	100
3	*4*	150
...	...	...

vitamins

idV	nameV
1	A
2	B1
3	B12
4	C
...	...



food

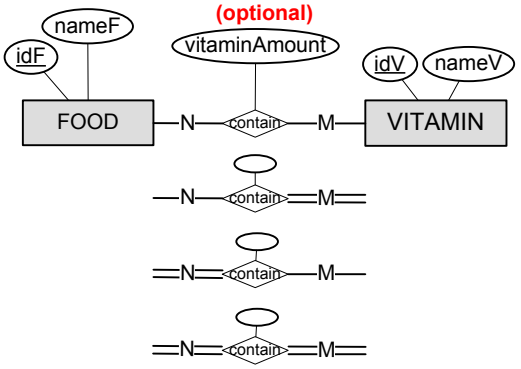
idF	nameF
1	Carrot
2	Tomato
3	Orange
...	...

vitamins_in_food

idFood	*idVitamin*	vitaminAmount
1	*1*	100
3	*4*	150
...	...	...

vitamins

idV	nameV
1	A
2	B1
3	B12
4	C
...	...



food

idF	nameF
1	Carrot
2	Tomato
3	Orange
...	...

vitamins_in_food

idFood	*idVitamin*	vitaminAmount
1	*1*	100
1	*2*	*25*
3	*1*	*75*
3	*2*	*25*
3	4	150
...	...	...

vitamins

idV	nameV
1	A
2	B1
3	B12
4	C
...	...

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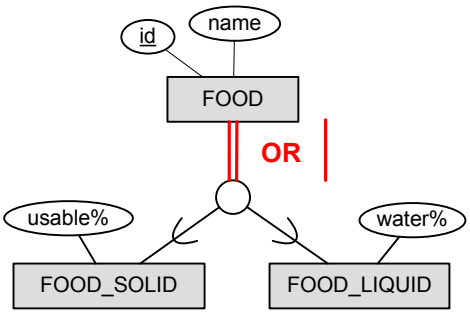
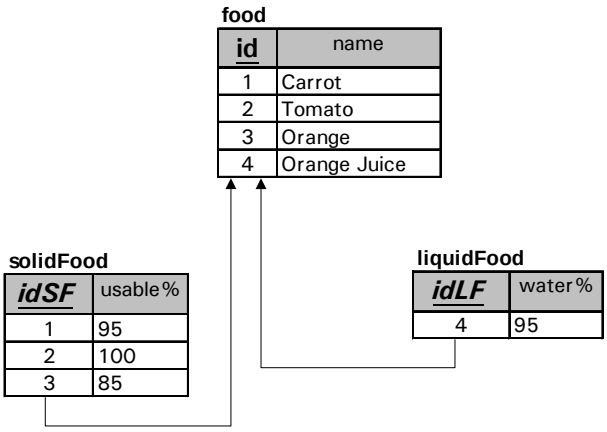
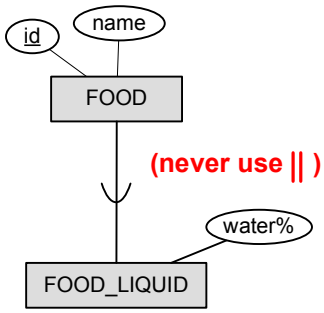
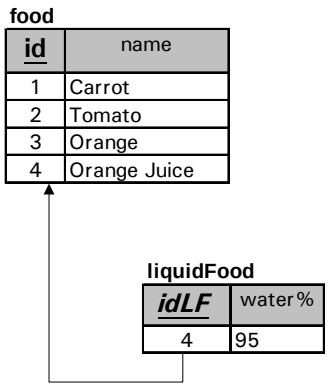
Informatics Engineering - Databases
Transformation Rules
Conceptual Model (hierarchies) ⇨ Logical Model

Conceptual Model	Logical Model
	
	

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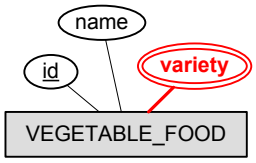
Informatics Engineering - Databases
Transformation Rules
Conceptual Model (special attributes) ⇨ Logical Model

Conceptual Model	Logical Model

(multivalued / multivalor)



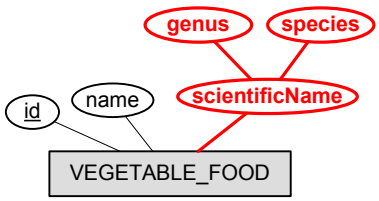
vegetableFood

id	name
1	Carrot
2	Tomato
3	Banana

varieties

idV	variety
2	Cacho
2	Cereja
2	Coração de boi
3	Da Madeira
3	Banana Pão

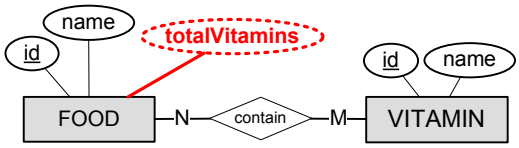
(composite / composto)



vegetableFood

id	name	genus	species
1	Carrot	Daucas	Carota
2	Tomato	Lycopersicon	Esculentum
3	Orange	Citrus	Sinensis
...	...	...	...

(derived / calculado,derivado)



food

id	name	totalVitamins
1	Carrot	
2	Tomato	
3	Orange	
...	...	

vitamins_in_food

idFood	idVitamin
1	1
1	2
3	1
3	2
3	4
...	...

vitamins

id	name
1	A
2	B1
3	B12
4	C
...	...

(correct way)

```
CREATE VIEW totalVitamins AS
  SELECT idFood, COUNT(*)
  FROM vitamins_in_food
  GROUP BY idFood;
```

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