



Relational Representation of Cross-tabs

- Cross-tabs can be represented as relations
- We use the value **all** to represent aggregates.
- The SQL standard actually uses *null* values in place of **all**
 - Works with any data type
 - But can cause confusion with regular null values.

<i>item_name</i>	<i>color</i>	<i>clothes_size</i>	<i>quantity</i>
skirt	dark	all	8
skirt	pastel	all	35
skirt	white	all	10
skirt	all	all	53
dress	dark	all	20
dress	pastel	all	10
dress	white	all	5
dress	all	all	35
shirt	dark	all	14
shirt	pastel	all	7
shirt	white	all	28
shirt	all	all	49
pants	dark	all	20
pants	pastel	all	2
pants	white	all	5
pants	all	all	27
all	dark	all	62
all	pastel	all	54
all	white	all	48
all	all	all	164