Table 5.1: Data dictionary notation

Meaning	*Symbol*	*Description*	*Example*
consists of	=	introduces the definition of a data item	Customer =
and	+	joins components of the definition in sequence	Customer = name + address
one or more	{ }	attributes may be repeated; any restrictions on number of repetitions are shown by a subscript	Customer = name + address + $\{phone\}_2$
zero or one	( )	attribute is optional	Customer = name + address + $\{phone\}_2$ + (email)
alternatives	[ ]	selection is indicated by enclosing the alternatives in square brackets [ ]	Name = [initial | firstname] + surname
either..or	|	alternatives for selection in [ ] are separated by a vertical bar	
specific value	" "	indicates specific values	"individual", "wholesale"
...	comment	comments are enclosed between asterisks	Customer = name + address + $\{phone\}_2$ + (email) + ["individual" | "wholesale"] *Wholesale customers are entitled to special discounts*

Initially definitions are written at a high level, simply listing the attributes of the class, but as development progresses more details are added, as shown below.

Customer = customerID + name + address + $\{phone\}_2$ + (email)
customerID = {digit}6 *A customer ID is a 6 digit number*
name = title + [initial | firstName] + surname
address = (houseName) + houseNumber + street + town + county
+ postcode
phone = areacode + number
email = *if customer has an email address*

You can see from this example that a data dictionary is structured in the same way as a standard language dictionary. We could have