

Example 1.5.3: Let us consider the relation $R = \{(a, b), (a, d), (b, b), (b, c), (c, c), (d, b), (d, c), (d, e), (d, f), (e, e), (e, f), (f, a), (f, c), (f, d), (f, e)\}$; notice that $R_a = \{b, d\}$, $R_b = \{b, c\}$, $R_c = \{c\}$, $R_d = \{b, c, e, f\}$, $R_e = \{e, f\}$ and $R_f = \{a, c, d, e\}$. All in all, R may be pictured like this:

	a	b	c	d	e	f
a		×		×		
b		×	×			
c			×			
d		×	×		×	×
e					×	×
f	×		×	×	×	

The sequence of boxes along the diagonal is

	×	×		×	
--	---	---	--	---	--

Its complement is

×			×		×
---	--	--	---	--	---

which corresponds to the diagonal set $D = \{a, d, f\}$. Indeed, D is different from each row of the array; for D , because of the way it is constructed, differs from the first row in the first position, from the second row in the second position and so on: \diamond