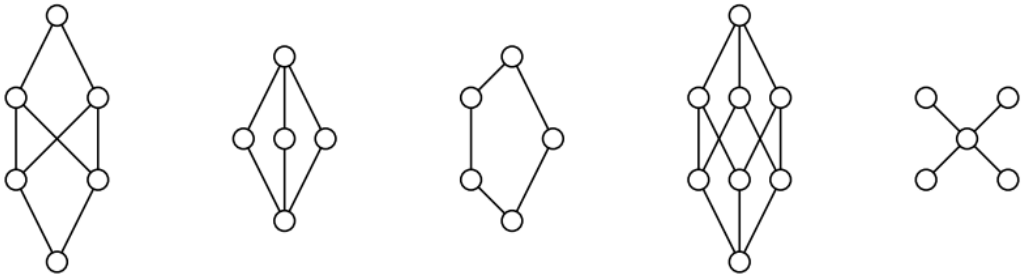
Home assignment № 2

Solutions should be sent to fdr.strok@yandex.ru
Deadline is 08:59 20/10/2018
Template for the title: [Posets & DM] - %Name Surname% - 2,
example, [Posets & DM] – Fedor Strok – 2
Allowed formats: .doc, .pdf. You can use either Latex or Word. Scans of pictures (if necessary) are accepted.

Task 1
Compute all formal concepts for the following formal context K (use the definition).
A formal concept – is a pair (A,B), such that: $A \in 2^G, B \in 2^M, A' = B, B' = A$
Where $A' = \{m \in M | (g,m) \in I \; for \; all \; g \; in \; A\}$

	Latin America	Europe	Canada	Asia Pacific	Middle East	Africa	Mexico	Caribbean	United States
Air Canada	X	X	X	X	X		X	X	X
Air New Zealand		X		X					X
All Nippon Airways		X		X					X
Ansett Australia				X					
The Austrian Airlines Group		X	X	X	X	X			X
British Midland		X							
Lufthansa	X	X	X	X	X	X	X		X
Mexicana	X		X				X	X	X
Scandinavian Airlines	X	X		X		X			X
Singapore Airlines		X	X	X	X	X			X
Thai Airways International	X	X		X				X	X
United Airlines	X	X	X	X			X	X	X
VARIG	X	X		X		X	X		X

Task 2
Which of the following figures replresent a lattice? Why?
Are there any complete lattices?



Task 3

Let $(L, \leq)$ be a lattice with infimum and sumpremum defined as usual.

Prove that for any $x, y \in L$

a) $x \vee x = x$

b) $x \vee (x \wedge y) = x$

c) $x \vee y = y \vee x$