Exercise Sheet 15: Pavel Ghazaryan

CEx. 156

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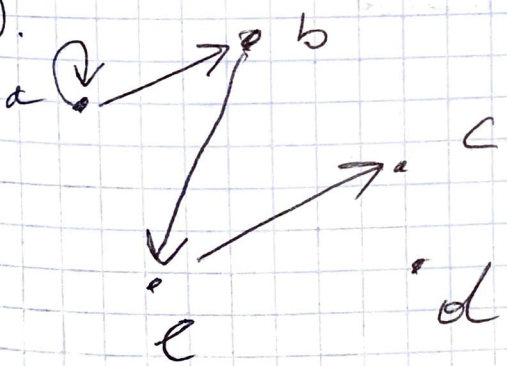
a) Not Transistive: Let's say x is a student then y is taking the same course: $\Rightarrow (x,y)$ if y and z are taking the course together. there can be a situation when x and z don't have the same course so $\Rightarrow (x\,y)\,;(y\,z)$ but not (x,z).

c) Transistive: If m is a factor of then for sure it is a factor of some k when n devides k. Because then a is a factor of k and $\Rightarrow$ m is a factor of $n \Rightarrow (m\,k)$ True ✓

f).



not Transistive (no relation between (a e) or (b e).

closure: (a e) ; (b c) (a, c)

CEx. 158

a) Reflexive ✓
Symmetric ✓ ⇒ Equivalent
Transitive ✓

d) Reflexive ✓
Symmetric ✓
Transitive ✓ ⇒ Equivalent
?

CEx. 161

a)

•	[0]	[1]	[2]	[3]
[0]	[0]	[0]	[0]	[0]
[1]	[0]	[1]	[2]	[3]
[2]	[0]	[2]	[2]	[3]
[3]	[0]	[3]	[3]	[3]

Unit [1]
[0] no invers
[1] invers [1]
[2] invers [2]
[3] inverse [3]

+	[0]	[1]	[2]	[3]
[0]	[0]	[1]	[2]	[3]
[1]	[1]	[0]	[3]	[0]
[2]	[2]	[3]	[0]	[1]
[3]	[3]	[0]	[1]	[2]

Unit [0]
[0] [0] inverse
[1] [1] inverse
[2] [2] inverse
[3] [3] inverse