

Section 2.1: Relations

Monday, October 19, 2015
10:57 AM

ordered pair: (x, y)

examples: $(1, 2)$
 $(3, -4)$
 $(\text{"Pat"}, \text{"Math 163"})$

ordered triple: (x, y, z)

ordered n-tuples: (also known as "tuples")
 $(\text{"Ford"}, \text{"Probe"}, 1990, \text{"grey"}, \text{"flaky electrical system"})$
 $(\text{"Math 163"}, \text{"x01"}, \text{"Q1"}, 2011)$

relations:

relation \equiv a set of ordered pairs or n-tuples

how do you define a relation?

- ① list the n-tuples
- ② give a rule that generates the n-tuples

examples:

x	y
A	Y

 \Leftrightarrow $\{(0, 4), (1, 8), (2, 7), (3, 72)\}$

i	J
0	9
1	8
2	7
3	72

$$\Leftrightarrow \{(0,4), (1,8), (2,7), (3,72)\}$$

example: let $x \in \{1, 2, 3\}$ and $y \in \{2, 4, 6\}$.

$$(x, y) \in A \text{ iff } x + y = 5.$$

short method:

x	y
1	4
3	2

or

x	y
3	2
1	4

long method:

x	y

now, cross
out all
the ones
that don't
add to
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