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Existential Quantifier

Let x, y range over \mathbb{N}

Q(y) ::= \exists x. \ x < y

Q(3) is \top ([x<3] is \top for x=1)

Q(1) is \top ([x<1] is \top for x=0)

Q(0) is \vdash ([x<0] is not \top

for any x in \mathbb{N})
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Universal Quantifier

x, y \text{ range over } \mathbb{N}

R(y) := \forall x. x < y

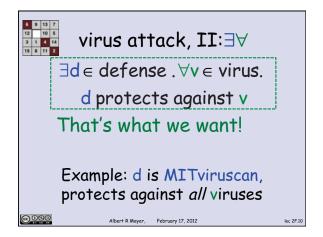
R(1) \text{ is } F([x < 1] \text{ is } F \text{ for } x = 5)

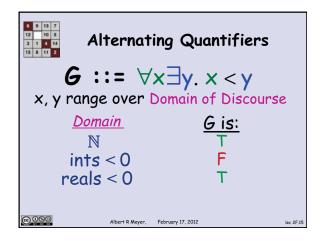
R(8) \text{ is } F([x < 8] \text{ is } F \text{ for } x = 12)

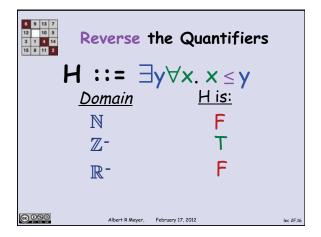
R(10^{100}) \text{ is } F

([x < 10^{100}] \text{ is } F \text{ for } x = 10^{100})
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