

Probar con deducción natural

$$\exists x \exists y (R(x,y) \vee R(y,x)) , \neg \exists x R(x,x) \vdash \exists x \exists y \neg (x = y)$$

1 -	$\exists x \exists y (R(x,y) \vee R(y,x))$	premisa
2 -	$\neg \exists x R(x,x)$	premisa
3 -	$R(a,b) \vee R(b,a)$	elim \exists 1, dos veces
4 -	$\forall x \neg R(x,x)$	$\neg \exists x P(x) \equiv \forall x \neg P(x)$
5 -	a = b	supuesto
6 -	$\neg R(a,a)$	elim \forall 4
7 -	$\neg R(b,a)$	elim = 5,6 (*)
8 -	R(a,b)	corte 3,7
9 -	$\neg R(a,b)$	elim = 5,6 (*)
10 -	$\neg (a = b)$	int \neg 5, 8, 9
11 -	$\exists y \neg (a = y)$	int \exists 10
12 -	$\exists x \exists y \neg (x = y)$	int \exists 11

(*) en los dos casos sólo se ha sustituido una de las dos constantes a's que aparecen

The logo for 'Cartagena99' features the text 'Cartagena99' in a stylized, blue, serif font. The '99' is significantly larger and more prominent than the word 'Cartagena'. The text is set against a background of a light blue and white abstract shape that resembles a stylized 'C' or a wave.

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