Semantic Web Assignment 3

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Team Name: gamma

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A
$$\subseteq$$
 7 \exists 0.0 \exists
A, = { y: A, (x,y): R, (y,z): 0 \exists

Anath Circumstance pomain: { Set of instances }

 $\Delta^{I} = \{ \{ x_2, x_3, x_4, x_5, x_6 \} \}$

$$R^{I} = \{ (x_5, x_i) \}$$

$$Q_{x} = \{(x', x')\}$$

Answer 1.2

1) IR. A = B,

There is all east , who is related to A by B. Should be B,

as we see that in
$$R^{2} = \{(x_{5},x_{1})\}$$

 x_{5} is related to A ,

and of is also in B, B= [25]

2) ANDEE $\Delta^{\pm} = \{x_1, x_2\}$ DI = Exe, xs, xy] Atnota [x2] = E : it is also satisfied

Q.DEF Z A

A is one who does not have any

, a vitin D notable

$$A^{T} = \{ x_1, x_2 \}$$

$$D^{T} = \{ x_1, x_2, x_4 \}$$

$$D^{T} = \{ (x_1, x_4) \}$$
as we can see that x_1 which is A

have srelation with x_6 , which is not in D,

.. A does not have any relation a with D

2) A box (A,): 0 0 3 A, = { y: A, (x,y): R, (y,z): 0} if y is A, then or is shelated to y by R & y is sociated to Z by a

in over Interpretation:

$$A^{\pm} = \{x_{1}, x_{2}\}$$

$$R^{\pm} = \{(x_{5}, x_{6})\}$$

$$R^{\pm} = \{(x_{1}, x_{6})\}$$

is eveloped to 26, by 0, swles

A2 = { X: 7(7D M7E), y: ANB, (4,x): R}

$$A_2 = \{ x: DUE, y: ANB, (y,x): R \}$$

Arguer 22
$$\begin{cases}
x: DUE, y: ANB, (y,x): R \end{cases}
\end{cases}$$

$$S = \begin{cases}
x: D, y: ANB, (y,x): R \end{cases}
\end{cases}$$

$$x: DUE$$

$$x: DUE$$

Applying E Rule in:

A E D

as y is A

... y: TANB

5=0

K2 is not consistent

Nower3: Consistency and Inference $T_3 = \mathcal{E} \quad A = TENTF$, $BUD \quad E \quad A$, $FUF \quad E \quad BFG$, $FUF \quad E \quad BGG$) $An_{AF} \cdot G \quad EL$, $EUF \quad E \quad BGG$) $A_3 = \mathcal{E} \quad X : G, (Y,X) : Q$ $S = \mathcal{E} \quad X : G$ $S = \mathcal{E}$ Answer 3: Consistency and Inference

 $\chi: C^{1}(\widehat{a}^{1}x): \mathcal{O}^{1}$

 $S = \{ \{ x: G, (y,x): 0, x: TA \}, \\ S = \{ \{ x: G, (y,x): 0, x: TA \}, \\ \{$

 $= \left\{ \{ \mathcal{X}: G, (Y, x): (Q, x; 7) \neq 0, x : T \in V \exists P^{(1)}, y \} \right\}$ $= \left\{ \{ \mathcal{X}: G, (Y, x): (Q, x): (X, x) \neq 0, x : T \in V \exists P^{(1)}, y \} \right\}$ $\{x: G, (y,x): 0, x: 7A, x: 4o(7G)\}$ $\{x: G, (y,x): 0, x: 7A, x: 4o(7G), (x, t'): 0, t': 7G\}$

 $S = \{ \{x:G, y:B, (y,x):P\} \}$ $S = \{ \{x:G, y:B, (y,x):P, y: 7(BUD) LIA\} \}$ $\{ vsing BUD CA\} \}$

$$S = \{ \{ x: G, y: B, (y,x): P, y: TB, y: TD \} \}$$

$$\{ x: G, y: B, (y,x): P, y: A \} \}$$

$$S = \{ \{ x: G, y: B, (y,x): P, y: A, y: T(T(EUP)) \} \} \}$$

$$= \{ \{ x: G, y: B, (y,x): P, y: A, y: T(T(EUP)) \} \} \}$$

$$= \{ \{ x: G, y: B, (y,x): P, y: A, y: E \}, [rinke applied] \}$$

$$= \{ x: G, y: B, (y,x): P, y: A, y: F \} \}$$

$$S = \{ \{ A \cup \{ y: E \} \}, \{ A \cup \{ y: E \} \} \} \}$$

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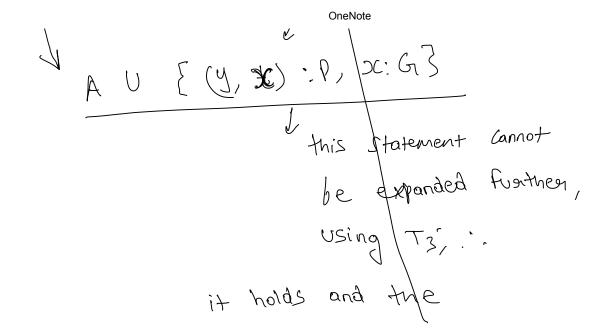
$$S = \{ \{ A \cup \{ y: E \} \}, \{ A \cup \{ y: E \} \} \} \}$$

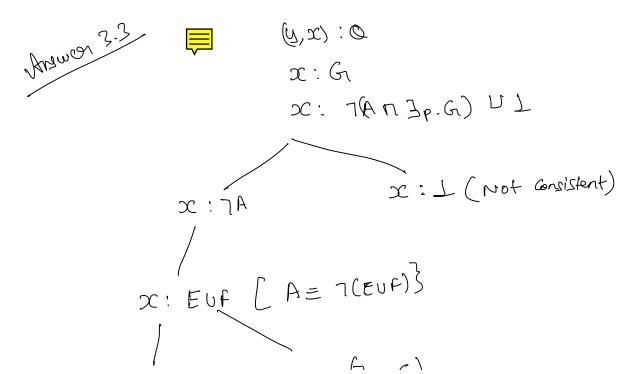
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$$x: 7(\exists a. \forall y)$$

$$(\text{Not consistent})$$

$$7(x,t'): 0$$

$$7t': G$$

$$\text{now we have } 7(x,t'): 0$$

$$\text{also } (y,x): 0$$

$$y = 7x$$

$$y + 7(7A) \left(\text{as } x: 7A\right)$$

$$X:G$$
 $(y,x):Q$
 $(vsing EVF $\subseteq 730.G$)$

x: 7(EUF)

x: 70 (7Gi)

x: 76 (7Gi)

x: 76

OneNote

$$F = \{x_i\}$$

$$A = \{x_i, x_s\}$$

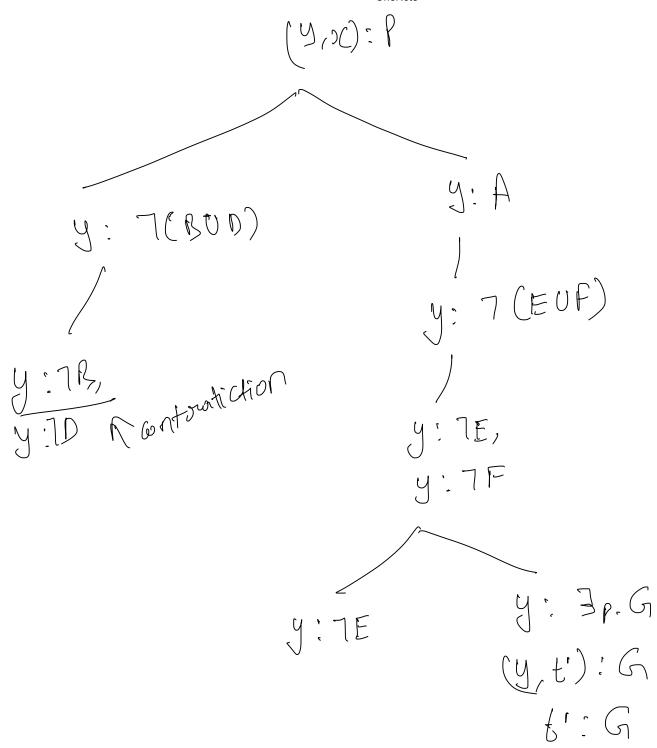
$$B = \{x_i\}$$

$$A = \{x_i\}$$

$$A$$

Mywo 3.2

X: 6 9:3



£1:7(AM 3p-G)