

Q 1) For all v ($\text{is_unk}(v.\text{gender}) \ \& \ \text{is_unk}(v.\text{username}) \ \& \ \text{is_unk}(v.\text{Firstname}) \ \& \ \text{is_unk}(v.\text{occupation}) \ \& \ \text{is_unk}(v.\text{Birthdate}) \ \& \ \text{is_unk}(v.\text{city}) \ \& \ \text{is_unk}(v.\text{cast})$)

\Rightarrow For all $\rightarrow \text{True}(T)$

$$\begin{aligned} & T \wedge ((F \wedge F \wedge F \wedge F \wedge F \wedge F) \wedge \\ & (F \wedge F \wedge F \wedge T \wedge F \wedge F) \wedge \\ & (F \wedge F \wedge F \wedge F \wedge F \wedge F) \wedge \\ & (F \wedge F \wedge F \wedge T \wedge F \wedge F)) \end{aligned}$$

$$= T \wedge (F \wedge F \wedge F \wedge F)$$

$$= T \wedge F$$

$$= \underline{\underline{T}}$$

2) Exists v ($v.\text{gender} = 'F' \ \& \ v.\text{Birthdate} = '1/6/1990'$)

$$\Rightarrow F \vee ((F \wedge T) \vee (T \wedge F) \vee (T \wedge T) \vee (T \wedge T))$$

$$= F \vee (F \vee F \vee T \vee T)$$

$$= F \vee T$$

$$= \underline{\underline{T}}$$