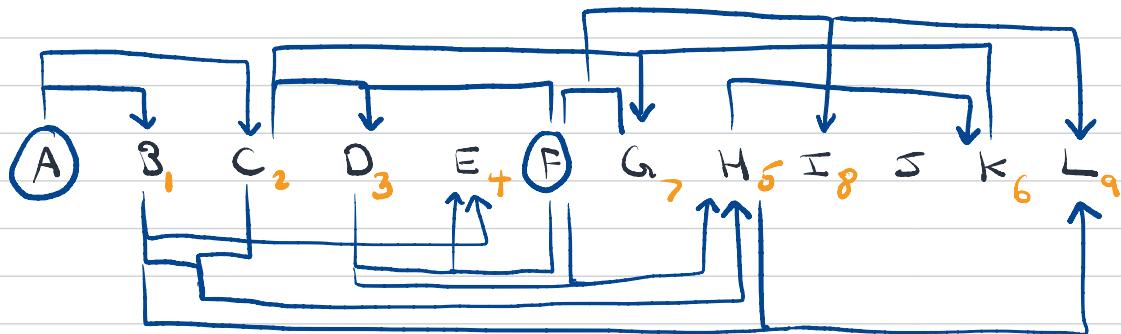
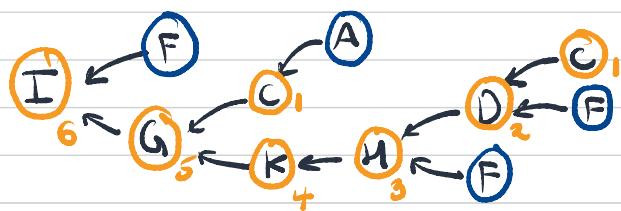
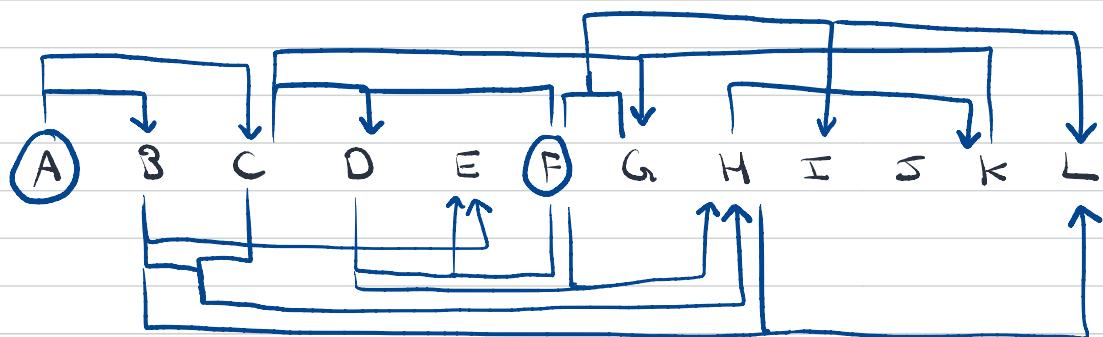


1.

(a)



Pick next alphabetically

Only needed : $B + H \rightarrow L$,
 $A \rightarrow B$
 $B + C \rightarrow H$
 $A \rightarrow C$

} only needed 4, did 9 instead

(type attribute value)
(type attribute2 value2)

2.

(a)

(animal, (species Lion), (name Rosco), (feed 1), (last feed 1))

(animal, (species Snake), (name Shimmer), (feed 2), (last feed 1))

(b) • $\exists x [\text{animal}(x) \wedge \text{species}(x) = \text{Lion} \wedge \text{name}(x) \neq \text{Rosco} \wedge \text{last feed}(x) = 2]$
⇒
 $\text{add}(x, \text{feed list}) \wedge \text{last feed}(x) = 0$

• $\exists x [\text{animal}(x) \wedge \text{species}(x) = \text{Lion} \wedge \text{name}(x) = \text{Rosco} \wedge \text{last feed}(x) = 1]$
⇒
 $\text{add}(x, \text{feed list}) \wedge \text{last feed}(x) = 0$

• $\exists x [\text{animal}(x) \wedge \text{species}(x) = \text{Ape} \wedge \text{age}(x) < 30 \wedge \text{last feed}(x) = 1]$
⇒
 $\text{add}(x, \text{feed list}) \wedge \text{last feed}(x) = 0$

• $\exists x [\text{animal}(x) \wedge \text{species}(x) = \text{Ape} \wedge \text{age}(x) \geq 30 \wedge \text{last feed}(x) = 2]$
⇒
 $\text{add}(x, \text{feed list}) \wedge \text{last feed}(x) = 0$

• $\exists x [\text{animal}(x) \wedge \text{species}(x) = \text{Snake} \wedge \text{name}(x) \neq \text{Shimmer} \wedge \text{last feed}(x) = 1]$
⇒
 $\text{add}(x, \text{feed list}) \wedge \text{last feed}(x) = 0$

• $\exists x [\text{animal}(x) \wedge \text{species}(x) = \text{Snake} \wedge \text{name}(x) = \text{Shimmer} \wedge \text{last feed}(x) = 2]$
⇒
 $\text{add}(x, \text{feed list}) \wedge \text{last feed}(x) = 0$

• $\exists x [\text{animal}(x) \wedge \text{species}(x) = \text{Giraffe} \wedge \text{last feed}(x) \neq 0 \wedge$
 $\exists y [\text{animal}(y) \wedge \text{species}(y) = \text{Duck} \wedge \text{name}(y) = \text{Shimmer} \wedge \text{last feed}(y) = 0]]$
⇒
 $\text{add}(x, \text{feed list}) \wedge \text{last feed}(x) = 0$

(organism(morphology rod)(aerobicity aerobic))

3.

