Lakshi Srivastava IBM18CS090

Assignment

1) Step 1 : Eliminate

$\forall x [\neg \exists z] Animal(z) \vee Kills(x,z)] \vee [\forall y \neg loves(y,x)]$

Step 2: Inward

$\forall x [\forall Animal(z) \wedge z \neg kills(x,z)] \vee [\forall y \neg loves(y,x)]$

Step 3: change quantifiers.

$\forall x [\forall z Animal(z) \wedge \neg kills(x,z)] \forall [\forall_z \rightarrow loves(z,x)]$

Step 4: Skolimize

$\forall x [Animal(F(x)) \wedge z kills(x, F(x))] \vee \neg loves(G(x)), x)$

Step 5: Drop Universal quantifiers.

$[Animal(F(x)) \wedge z kills(x, F(x))] \vee \neg loves(G(x), z))$

Step 6: Distribute.

$[Animal(F(x)) \vee z loves(G(x), x)] \wedge [Animal(F(x)) \vee \rightarrow loW(G(x), x)]$

2. Rules

- cold and precipitation → snow
  - ¬ cold ∨ ¬ precipitation ∨ snow
- January → cold.
  - ¬ January ∨ cold.
- cloud → precipitation
  - clouds ∨ precipitation

- Facts.
  - January, clouds.
- Prove.
  - Snow.