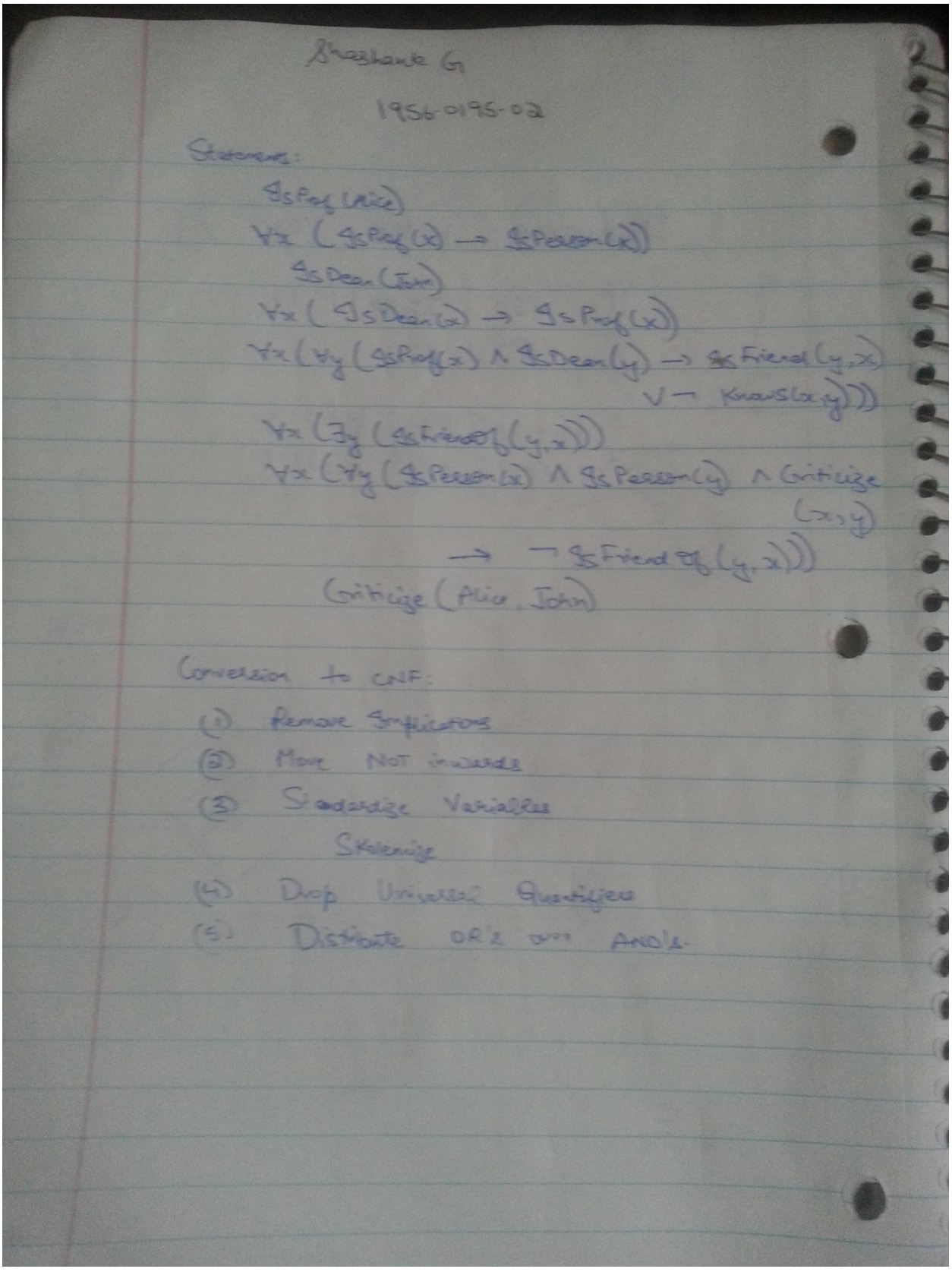
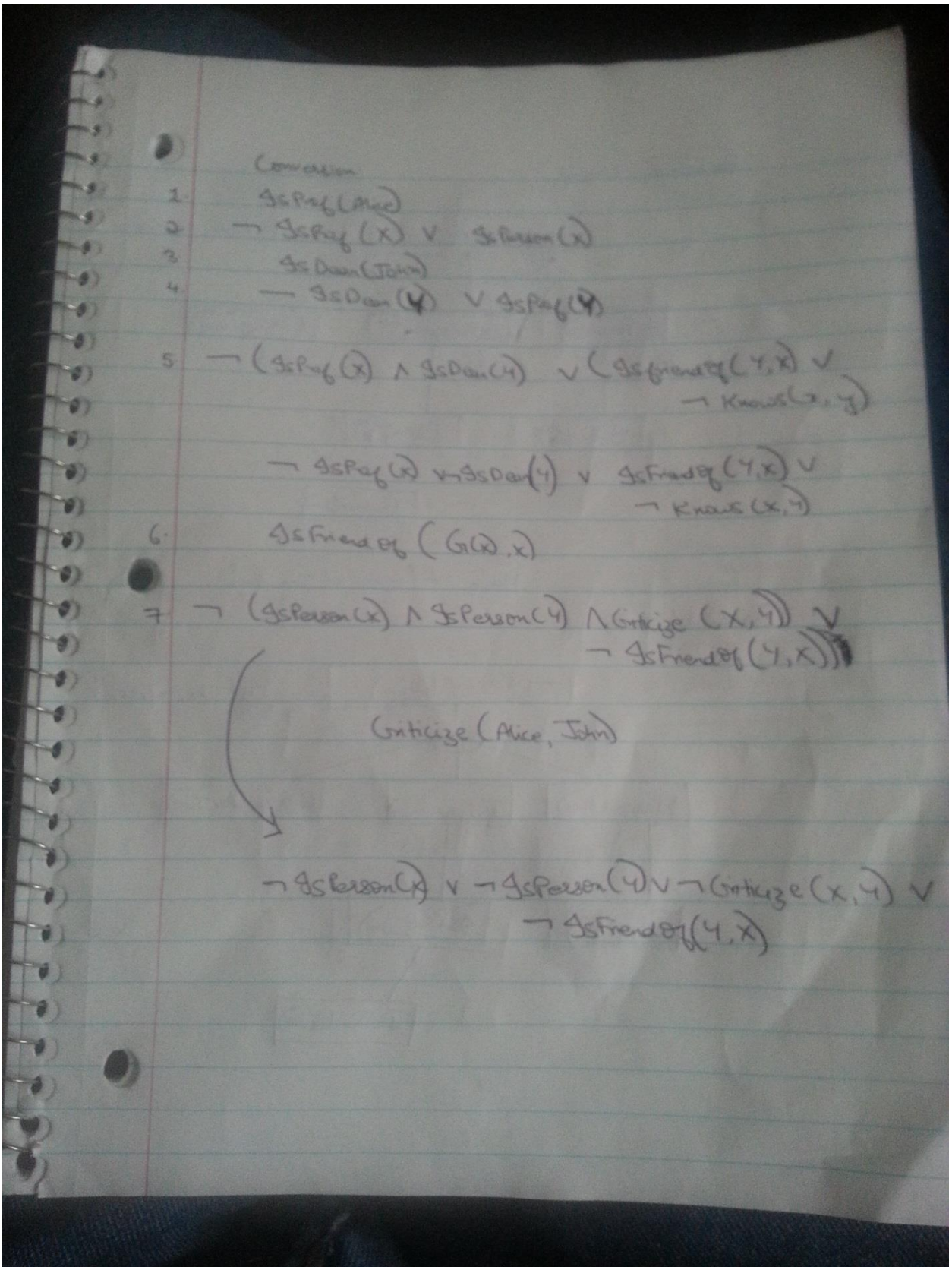
Shashank G

1956-0195-02

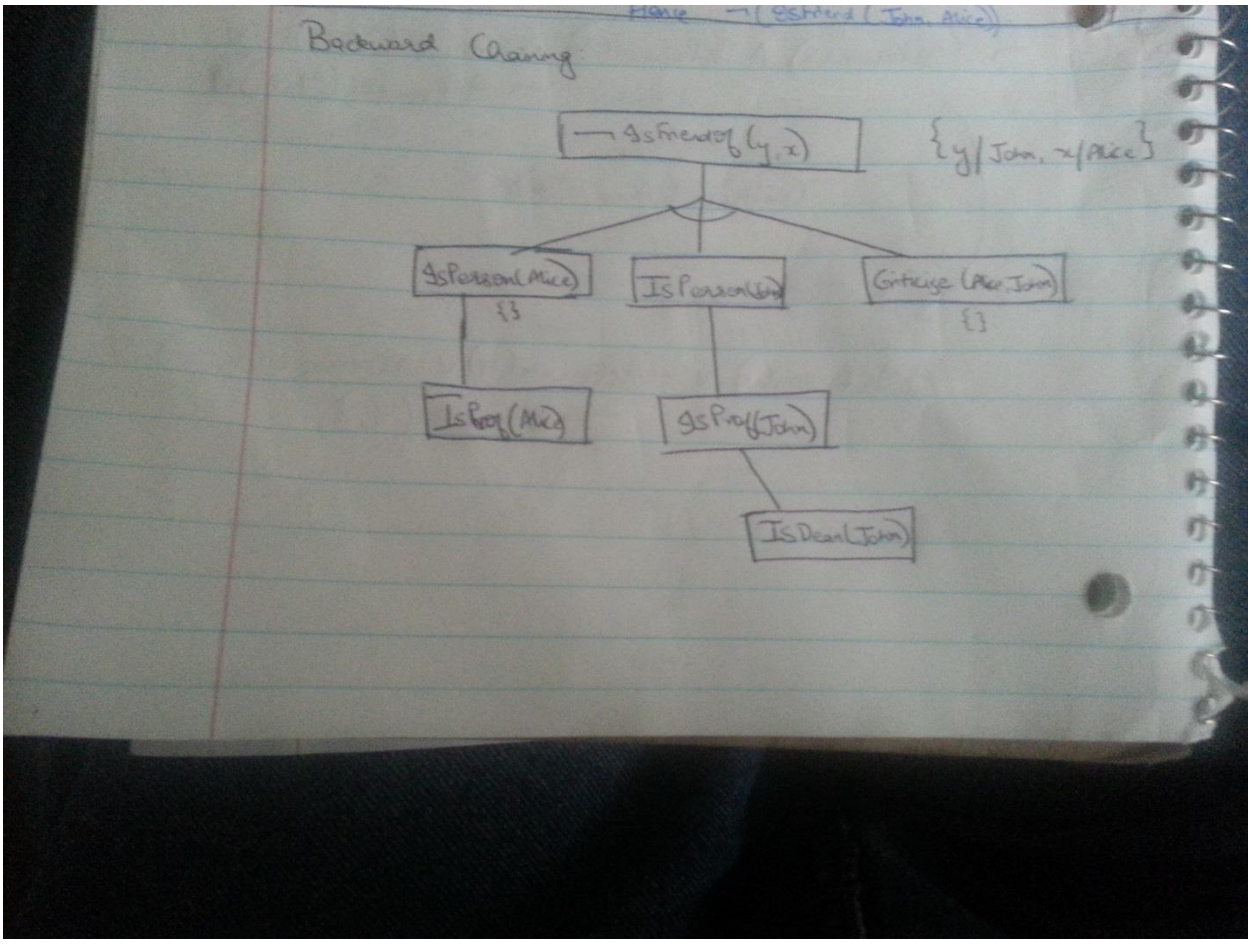
Question:


Shashank G
1956-0195-02
Statements:
IsProf(Alice)
∀x (IsProf(x) → IsPerson(x))
IsDean(John)
∀x (IsDean(x) → IsProf(x))
∀x (∀y (IsProf(x) ∧ IsDean(y) → IsFriend(y,x)
∨ ¬ Knows(x,y)))
∀x (∃y (IsFriendOf(y,x)))
∀x (∀y (IsPerson(x) ∧ IsPerson(y) ∧ Criticize
(x,y)
→ ¬ IsFriendOf(y,x)))
Criticize (Alice, John)
Conversion to CNF:
(1) Remove Implications
(2) Move NOT inwards
(3) Standardize Variables
Skolemize
(4) Drop Universal Quantifiers
(5) Distribute OR's over AND's

Conversion To CNF:



Backward Chaining:



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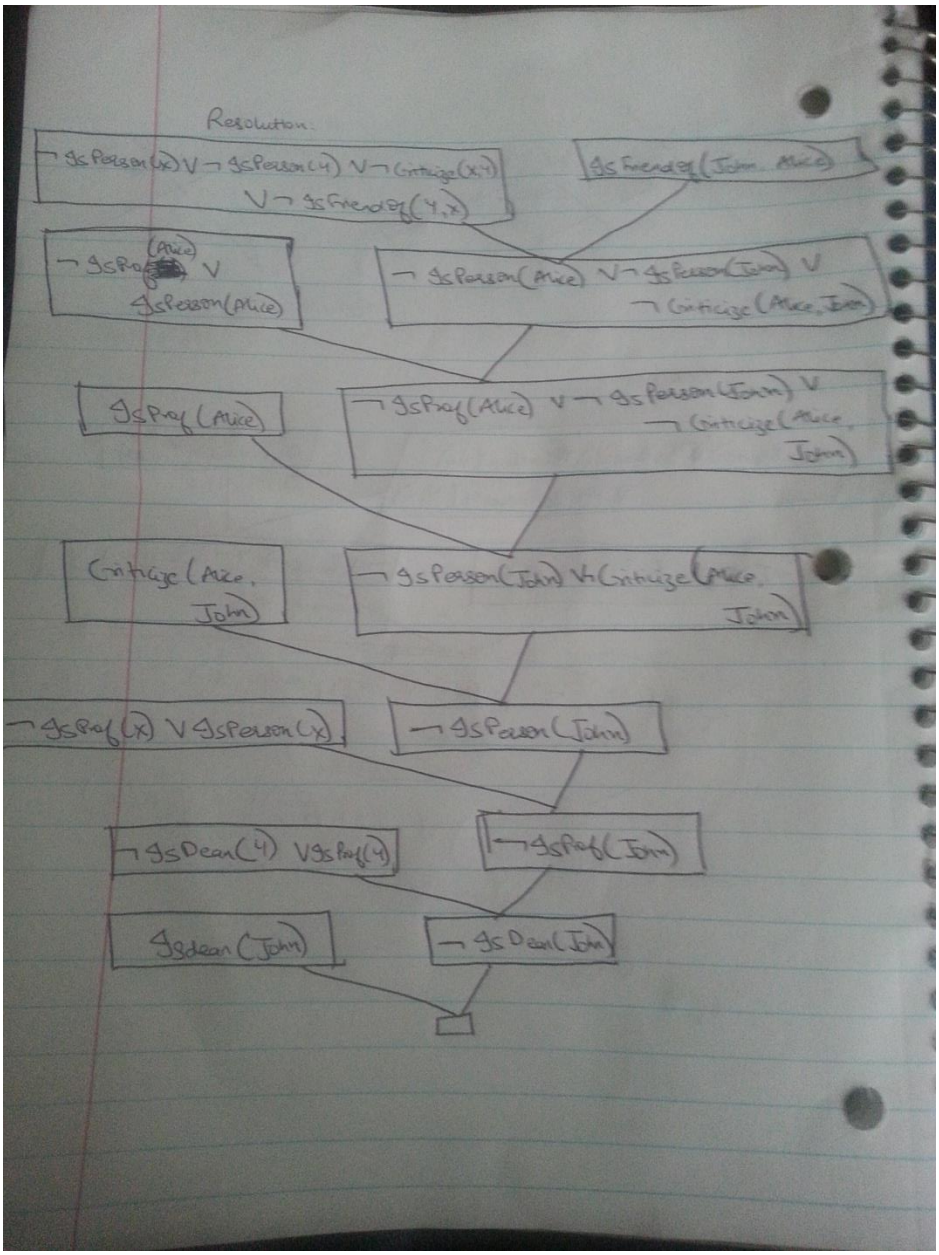
Resolution:


Resolution:
¬ isPerson(x) V ¬ isPerson(y) V ¬ criticize(x,y) V ¬ isFriendOf(y,x)
isFriendOf(John, Alice)
¬ isProf(Alice) V isPerson(Alice)
¬ isPerson(Alice) V ¬ isPerson(John) V ¬ criticize(Alice, John)
isProf(Alice)
¬ isProf(Alice) V ¬ isPerson(John) V ¬ criticize(Alice, John)
criticize(Alice, John)
¬ isPerson(John) V criticize(Alice, John)
¬ isProf(x) V isPerson(x)
¬ isPerson(John)
¬ isDean(y) V isProf(y)
¬ isProf(John)
isDean(John)
¬ isDean(John)