FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE Lab Exercise – 6

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CDAC – NOIDA PGDAI

ASSIGNMENT NO

Q. Consider the following paragraph:

"anything anyone eats are called food. Milka likes all kind of food. Bread is a ? food. Mango is a food. Alka eats pizza. Alka eats everything milka eats."

Translate the following sentences into (WFF) in predicate logic and then into set of clauses. Using resolution principle answer the following:

- 1. Does Milka like pizza?
- 2. what food Alka eats[Question answering]

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	B Mika likes all food 3 ty Crood (y) = 1 ikes (Mika,y) In clause form: 7 Food (y) V Likes (Mika,y)
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	D AIKa eats pizza = Eats (AIKa, Pizza)
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	5ubstitute y= Pizza 3-7 Food (Pizza) V Likes (Milka, Pizza)
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	What food does AIKa eat? (Fren: Eats [AIKa, Pizza] - Eats [Mika, Pizza] - Mika eats food items she like, y] - Eats [Mika, y] = Eats [AIKa, y] Hence, proved. - AIKa eats everything Mika eats [all food]
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Q. Consider the following axioms:

- 1. Every child loves Santa.
- 2. Everyone who loves Santa loves any reindeer.
- 3. Rudolph is a reindeer, and Rudolph has a red nose.
- 4. Anything which has a red nose is weird or is a clown.
- 5. No reindeer is a clown.
- 6. Scrooge does not love anything which is weird.
- 7. (Conclusion) Scrooge is not a child.

Represent these axioms in predicate calculus; skolemize as necessary and convert each formula to clause form. (Note: `has a red nose' can be a single predicate. Remember to negate the conclusion.) Prove the unsatisfiability of the set of clauses by resolution.

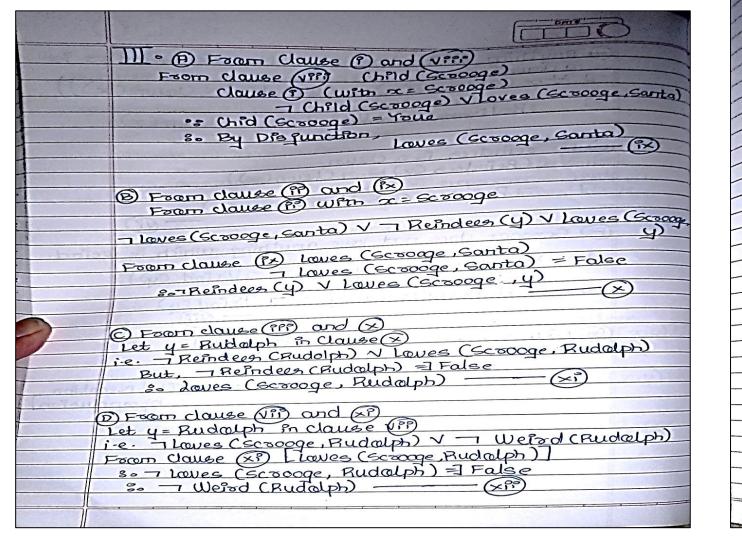
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	Tre Constants : B Santa = represents Santa B Rudolph = represents Rudolph C Scrooge = represents Schoge.
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	7 Loves (x, Santa) V 7 Reinders (y) V Loves (x,y)
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3. By Resolution, We Ca	include that the original
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Resolution qUESTION

- (a) Marcus was a man.
- (b) Marcus was a Roman.
- (c) All men are people.
- (d) Caesar was a ruler.
- (e) All Romans were either loyal to Caesar or hated him (or both).
- (f) Everyone is loyal to someone.
- (g) People only try to assassinate rulers they are not loyal to.
- (h) Marcus tried to assassinate Caesar

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Who hated Caesar?

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7 200 day (Mancus, Calsas)
D From Statement (1998) Try Assasinate (marcus, Caesas) — (xi)
E) From Statement (X) and (X) (X) = 7 Yoy Assassnate (Mascus, Caesas) V
Jayatta (Mascus, Caesas) = Youe
3-7 Toy Assassnate (Maxus, Caesas) = False 3-7 Toy Assassnate (Maxus, Caesas) - (1)

Resolution qUESTION

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qUERY:::::::::::::

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	F) From (x) and (x)
	Statement (PX): 20yol Tos Cmascus, (aceas) V Hated Cmascus, (aceas) Statement (P): 7 20yol Tos (mascus, (aceas) Resolving, we have
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	Hated (Mascus, Carsas); we have compassing with statement (3); we have so mascus hated Carsas
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