	Week 9 FOL Resolution PAGE NO: 29 DATE: 03/12/24
7	Create a knowledge base consisting of first order logic Statements and prove the given query with Resolution.
	lopic Statements and prove the
	Any Resolution.
	The state of the s
	Basic steps for proving conclusion S given premises
	(all expressed in FOL).
	(all expressed in FOL).
2.	Convert all sentences to CNF
3	Negate conclusion S & convert result to CNT.
4.	Add negated conclusion S to the primise clauses.
7.	Repeat Aintil contradiction as no progress is mode:
	b. Desal of call then parent clauser)
	6. Resolve them together, performing all required unifications.
	c. If resolvent is the empty clause, a contraction
	has been found (i.e., S follows from the premises)
	N. If not, add resolvent to the premises.
	TO LEAD AND TO THE PARTY OF THE
	if we succeed in Step 4, we have proved the conchusion.
-	Given tB or principal.
	The state of the s
a	John lites all kind of food
	Apple and vegitables are food
	they Those another to to another tile of the
رل	Anil class promits and Itil alive.
- e f	truly eats everything that Anileats.
7	Anil cats peamuts and still alive. Islangy eats everything that Anil cats. Anyone who is alive implies not killed. Anyone who is alive implies not killed.
h	my with a not relied mighies alve.
N I	
	h has to be proved.
111	

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	Representation in FOL.
	Active for the company of the compan
Q .	Hx: food(n) -> likes(John,x)
b.	
c.,	Food(x) A food food (Apph) A food (vegetables) 'Hx Hy: eats(x,y) A - Tkilled(x) - food(y)
d.	euts (Anil, Pranuits). A alive (April)
e.	Hx: cats (Anil, n) → cats (Harry, n)
fg.	Hn: -/ killed (n) -> alve (n)
9 9.	Yn: Abreln) > 7 Eilled(n)
h.1	liky (John, Pranut)
	Eliminate implication: (b,d,h dont have any implications)
	«=>P with 70 ¥B
a.	tx Tfood(x) V like (John, x)
C:	Hn Hy T [cats (n, y) 1 T killed (n)] V food (y)
e	Yx 7 cats (Anil, x) V eats (Harry, x)
7	th TlT tilled(x) Vally (n)
9	the Table(x) V T killed (x)
	Move Negation mwards
nei la	SALE CONTRACTOR OF THE PROPERTY OF THE PROPERT
9.	Yn: Ifood(n) V (ikis (John, x)
t -	the ty: Teats (n,4) & willed (n) V food (4)
e.	m. (ab (thill, n) V eat (Ha.
f-9:	- Talled I V Talled I
77	Hn! tilled(n) Valve(n)
	Renanu variables with standardigraniables.
a .	Food (A. () a F. I.C.
b.	Food (Apple) A food (vegetables) Vy Vz: 7 eats (1/2) W Zilled(4) V Food(2)
C -	My Hz! Teats (Y, 2) W Zilled(y) V food(z)

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}	DATE.
d ·	eats (Anil, Franch) 1 aline (Anil)
e.	Yw: 7eats (Anil, w) V rats (Hany, w)
A.	Yp: Tahu(q) V 7 billd(p) (100) and I
- d.	Hp: Hilled (g) Value (g)
7.	Likey (John, Peanuts)
	Drop Universal Quantific.
a	Hood (n) V Ciku (John, n) ford (Apple)
Ь.	food (Apple) 11 Food (vegetables) Food (Vegetables)
C .	Teats (4,2) M Lilled (4) V food (2) eats (Anil, Peanuts)
d.	cati (Anil, Peonuts) 1 alive (Anil) \ Aline (Anil)
	Teats (Anil, w) Veats (Harry, w)
7	killed (g) Valive (g)
9.	Talin(t) V Thilled (t)
h.	likes (John, Acanuts)
1	
	For Proof, Negate the conclusion i.e, 7h
7h	-i likes (John, Peanuts)
1	The second of th

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	DAIE:
	Paroof by Resolution.
	7 7 3000 1011
	- likes (John, Peanuts) - food(x) V likes (John, x)
	[Feanublx]
	- rfood (Peanuts) - reats(y, 2) V Lilled(y) V food(2)
	C
\$	reats (4,A) V killed (4) eats (Anil, Peanuts)
	[Anilly}
	tilled (Amil) - 1 abrult) V 7 tilled (K)
	[Anil/k]
	Talin (Anil) alive (Anil)
	E3 Hine proved that John likes Peanuts.
146	John Likis Peanuts.
	62-12
	The second secon
<u> </u>	
	A CONTRACTOR OF THE PARTY OF TH