PAGE No.

## ASSIGNMEN NO-02

Name- Geeta Pramod 8akpal

class- BEIT

ROLLNO- 54

subject - Is Lab.

	DOP	boc	marks	Sign
	Lucia paroj	stad di a		
			racil costs	Marine . M. C.
-60	Carly serol	ا ودعاني بعد.	in the system.	English of the state
			1 3	uzaki 17 -



backward chaining or resolution (any one)
II I and long long of the troops
use predicate togic as region specify the
edge representation clearly specify the facts & interference rule used.
facts & Inventerence outers
-> 1. Example
1. every child spes source that,
has both blackcat & a pointed hat.
2. Every witch is good or say, good with
2. Every witch is good or bad.  3. Every child who sees any good with
gets candy. 4. Every witch that is bad has ablack
4. Every witch that is but
cat.
s. Every witch that is seen by any child has a pointed hat.  6. Prove: Every Child gets candy.
has a pointed nat.
6. Prove: Every Child ges carry
- A) Facts into Fol.  1. FxAy (child (x), witth (y) -> Sees(x,y))
Ny (witch (y) - has (y, black cat) 1 has
(y, pointed hat)
and(x) whod(y)
/ / / (
3. Ex ((sees(x,1)=2 con(x))
→ get (x, (and y) b, ey ((witch (y) → bad (y)) → has (y →
black hat)
5. Ey (sees (x,y) - has (y, pointed hat)
5. 67 (3-13)

FROM	m /		7
Dam	1.1	1	1

	B) EOL into CNF
	I. $\exists x \land y  (child (x), witch (y) \rightarrow sees(x, y))$ $\rightarrow \land \forall y  (witch (y) \rightarrow has (y, black hat))$ $\rightarrow \land \exists y  (witch (y) \rightarrow has (y, pointed hat))$
	- Nay (witch (y) - has (y, black bot)
	-+ N 3 y ( witch ( y ) - has ( y pointed how)
	R. Ay (witch (Y) -> good (Y))  Ay (witch (Y) -> bad (Y))
	yy (witch (y) → bad (y))
J-1	The second secon
	3. ex ((sees (x, y) - witch (y) - good (y)]
	gets (x (cand y)
	3. ex ((sees (x, y) -> witch (y) -> good (y)] -> gets (x . (oand y)  -> ex (sees (x, good (y) -> gets (x, (andy))
	4. By (bad (y) + has (y, black, hats)
	5. Ey (seen (x,y) - has (y, pointed hat)) -wyy (seen (x,y) - has (y, black hat)]
	(seeb (x, y) -> has (y, black hat)]
	The state of the s
10 July 31	Liber teals of a great transfer or
	Cran bound
	A. T. Adamson and Marketon and A.
The se	The said the said and a said and the said the sa
	The party of the second
	and so the sent of the stand
-	

1	PAGE No.	/	1
	DATE	11	

السا	
	The manual of the second of th
c	sees (x, y) Witch (y) y sees
	(x,y)
	{ good v bad 14 }
	Alloha aregia i di kua inga a
	N Seen [x, (good) 1 sees (x, bad), has (y, 7)
	N Seen (Migory)
	{v/yood/bad}
_	2/black cat y pointed hat)}
	/ anad) v seen(x,bad)
	hainted batsh
	gets (x, candy)
	The state of the s
	Seen (x, good) y has (good seen (x, good) y
	pointed hat) x gets  (x, and y)  gets (x, candy)
	(x, and y)
	The late of the second of the
	Contract of Children L.
	vis ( lie a . v i z i z i z i z i z i z i z i z i z i
	gets (x, candy) gets (x, candy)
	gets (x, curry
	The same of the sa
	Land welled (greened a decree of tellate 1 to
	Contract to the state of the st

PAGE No.

2) Frample 2: 1. 4 x (boy (x) or girl (x) 2. y y (child (y) - r gets (y, doll) or gets (y, train) or gets (y, coal) 3 v w (boy (w) -> 1 gets (w, doll 4. - For all z (child (z) and bad (z) (z, coal)) vy child (y) -> gets (y, train) 5. child (ram) -> gets (ram, coal (child (ram) - bad (ram CNF clauses -11 1 boy (x) or child (x) girl (x) or child (x) 2. I child (Y) or gets (y, doll) or gets (Y, train) or gets (Y, coa boy (w) or 1 gets (w, dol bad (z) or gets (z, coa) 1 child (7) child (ram) p gets (ram, coal) 6. bad (ram



Resolution-
4 1 child (2) or 1 bad (2) or gets (z, coal)
6 bad ram
7 I child (ram) or gets (ram, coal)
substituiting 2 by ram
(o)   boy (x) or child (x)
-boy (ram)
& child ram [substituting x by ram)
Te probeideroun Caubstituting of
7. I child ram or gets (ram, roal)
8 child (ram)
g. gets (ram, coal)
2 1 child (Y) (or gets (y, doll) or gets
(y, train) or gets (y, coal)
8. child (man)
10. gets (ram; doll) or gets (ram, train)
or gets (ram, coal)
(substituting y by ram)
9, gets (ram, coal)
10. gets (ram, doll) or gets (ram, train)
or gets (ram, coal)
111. gets (ram, doll) or gets (ram, coal)
3 1 boy (w) or 1 gets (w, doll)
5. hou (ram)
12. 1 get (ram, doll) (substituting co by ram)
11. gets (ram, doll) or gets (ram, train)
12. 1 gets (ram, doll)
13: gets (ram: coal)
_6. Ka7 get (ram, coal)
13 gets (ram, coal)
Hence, bad (ram) is proved.

1	eating s	m /			1
1	nati	/_	1	1	

0.2	. Differentiate between	STRIPS and ADL.
	A MILE PLANE CO. L. C.	
	STRIPS	ADDITION
	the state of the second	a term of editorial for
	1. STRIPS stands for	ADI stands for
	standard Research	Action Description
	Intitute Problem Solver	
-	Lucia Variable ite	artin the time
	2. only allows positive	Can support both
	literals in the state.	positive & negative
		literals.
<u> </u>	- Lucia	A TO SERVE A SERVE AND THE SER
	3. It makes use of	It makes use of
	closed world	open world assumpt-
	assumption (i.e)	ion i.e. unmentione
	unmentioned literals	literals are
	are false.	unknown,
		- Highlighting
	4. Goal are Conjunctions	Goals may involve
-	for eg -	conjuctione &
	intellegent^Beautiful	disconjunctions.
		P.g. (Intelligent!)
-	1	(Beautiful 1 Rich))
	Ellogo only find	
1 1 1 1 1	5. We can only find	We can find qualified
	ground literals in goals.	variables in goal.
	Dans not augment	Paralle 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
6		Equality predicate
	equality.	(x'=y) is builting
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	rom's book marks

PAGE No.			7
1	1 1	/	

1.	effects are	conditional effects are
	conjunctions.	allowed: when P:E
	Karal Lagrange	means E is an effect
		only if P is satisfied.
		. !"
8.	noes not have support	for eg: The variable
	for tupes.	for eq: The variable
		P: person.
_		
	p. Yann L	- total
	l · Lin:	
	Litalia in in i	[ ( T , T ) A
		Q
=	I to b I I	E3 \ 1 7 1
		4,
	A R.	
1		pli in undagt all
		true and resident
		oned states
1	to his the blad wealth	morniti 15
kut i		
,	site Triville and the a	victori tavak poli
1.		tainado for et Gast
		that properties and the
		- vi mole us inchi
1	- I was the second to	
	the state of the state	The sale of the sa
		t , Signatul
-		and death and the

	PAGE NO /
Q.4.	
P(B)	P(E)
40.001	0:002
Burglary	(Earthquake)
	B E P(A)
	(Alam) F T 0.95
PIN PALLANT	T F 0,94
	F T 0.29
	The state of the s
(John calls)	calls
A P(T)	A P(M)
T 0.09	T 0.70
F 0.05	F 0.01
The topology of the	ne network indicates that withquake affect. The probabines going off.  and Many Call depends only
- Burglary and ea	withquake affect. The probab.
lity of the ala	ms going off.
- Whether John a	nd Mary call depends only
- They do not perc	ce minor earthquakes and ofer before calling.
They do not noti	ce minor earthquakes and
They yonot cor	Her before calling.
a many listening to	o loud music & John confusion
prone ringing to	sound of alarm can be
tingger in here	vork only implicitly as
work.	work only implicitly as sociated to calling at
WO!L!	



1) The probability actually summarize potentially infinite sets of circumstances. The alarm might full to go off due to high humidity power failure, dead battery, at wires, a dead mouse stuck inside John and many might fail to call and report & alarm became they are out to lunch an vacation, temperarily deaf passing helicopter, etc. The condition probability tables in network gives probability for values of random variables depending an combination of S Each row must be sum to 1, because entries represent exhaustic set of cases for variables All variables are boolean. In general, a table for a boolean variable E) A variable with no parents has only one now representing prior probabilities, of each possible value of the variable. Every entry in full point probability dist-ribution can be calculated from information in Bayessian network. A generic entry in joint distribution is probability of conjuction of particular assignments to each variable P(xi=x11) .Xn = Xn) abbrevated us p(x1,...., xn

forme !	v. [			1
orr		1	1	

(i) The value of this entry is  $P(x, ..., x_0) = \Pi_{i-1} \cdot nP(1, parents(x_i))$ , where parents  $s(x_i)$  denotes the specific values of the variables parents(x\_i).

-  $P(j \land m \land a \land m di b \land b \land e)$ 

= P(jla) P(mla) P(alnb 1 ne) P(nb)e(ne)

= 0.09 x 0.07 x 0.00 | x 0.999 x 0.998

= 0.000628

(12) Boyesian Network

