Artificial Intelligence and Expert System Lab (CSE 404)

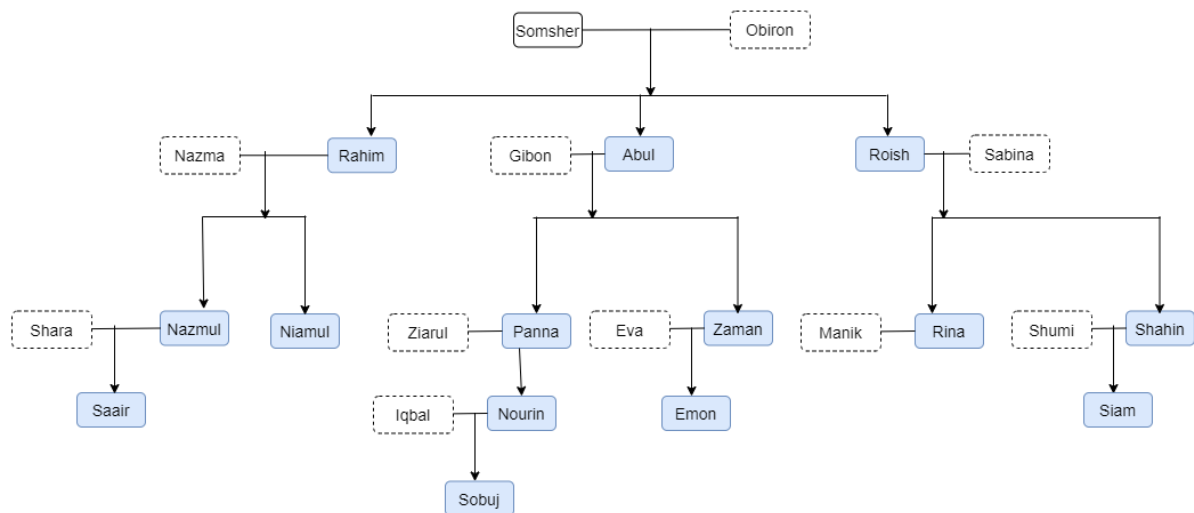Department of CSE

Assignment No: 01

Topic/Question: Implementing a basic family tree structure of my own family using Prolog.
Write rules against 1st cousin, 2nd cousin, 1st cousin once removed and 1st
cousin twice removed.

Tools:
1.   SWI-Prolog
2.   Drawio.net (for drawing)
3.   Notepad++ (text editor)

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Submitted by	Submitted to
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Somsher — Obiron

Nazma — Rahim   Gibon — Abul   Roish — Sabina

Shara — Nazmul   Niamul   Ziarul — Panna   Eva — Zaman   Manik — Rina   Shumi — Shahin

Saair   Iqbal — Nourin   Emon   Siam

Sobuj

Rules against 1st cousin:(result)

firstcousin(X,Y).	nazmul --> first Cousin --> rina
nazmul --> first Cousin --> panna	X = nazmul,
X = nazmul,	Y = rina ;
Y = panna ;	nazmul --> first Cousin --> shahin
nazmul --> first Cousin --> zaman	X = nazmul,
X = nazmul,	Y = shahin ;
Y = zaman ;	niamul --> first Cousin --> panna
nazmul --> first Cousin --> rina	X = niamul,
X = nazmul,	Y = panna ;
Y = rina ;	niamul --> first Cousin --> zaman
nazmul --> first Cousin --> shahin	X = niamul,
X = nazmul,	Y = zaman ;
Y = shahin ;	niamul --> first Cousin --> rina
niamul --> first Cousin --> panna	X = niamul,
X = niamul,	Y = rina ;
Y = panna ;	niamul --> first Cousin --> shahin
niamul --> first Cousin --> zaman	X = niamul,
X = niamul,	Y = shahin ;
Y = zaman ;	panna --> first Cousin --> nazmul
niamul --> first Cousin --> rina	X = panna,
X = niamul,	Y = nazmul ;
Y = rina ;	panna --> first Cousin --> niamul
niamul --> first Cousin --> shahin	X = panna,
X = niamul,	Y = niamul ;
Y = shahin ;	panna --> first Cousin --> rina
panna --> first Cousin --> nazmul	X = panna,

X = panna,
Y = nazmul ;
panna --> first Cousin --> niamul
X = panna,
Y = niamul ;
panna --> first Cousin --> rina
X = panna,
Y = rina ;
panna --> first Cousin --> shahin
X = panna,
Y = shahin ;
zaman --> first Cousin --> nazmul
X = zaman,
Y = nazmul ;
zaman --> first Cousin --> niamul
X = zaman,
Y = niamul ;
zaman --> first Cousin --> rina
X = zaman,
Y = rina ;
zaman --> first Cousin --> shahin
X = zaman,
Y = shahin ;
rina --> first Cousin --> nazmul
X = rina,
Y = nazmul ;
rina --> first Cousin --> niamul
X = rina,
Y = niamul ;
rina --> first Cousin --> panna
X = rina,
Y = panna ;
rina --> first Cousin --> zaman
X = rina,
Y = zaman ;
shahin --> first Cousin --> nazmul
X = shahin,
Y = nazmul ;
shahin --> first Cousin --> niamul
X = shahin,
Y = niamul ;
shahin --> first Cousin --> panna
X = shahin,
Y = panna ;
shahin --> first Cousin --> zaman
X = shahin,
Y = zaman ;
nazmul --> first Cousin --> panna

Y = rina ;
panna --> first Cousin --> shahin
X = panna,
Y = shahin ;
zaman --> first Cousin --> nazmul
X = zaman,
Y = nazmul ;
zaman --> first Cousin --> niamul
X = zaman,
Y = niamul ;
zaman --> first Cousin --> rina
X = zaman,
Y = rina ;
zaman --> first Cousin --> shahin
X = zaman,
Y = shahin ;
rina --> first Cousin --> nazmul
X = rina,
Y = nazmul ;
rina --> first Cousin --> niamul
X = rina,
Y = niamul ;
rina --> first Cousin --> panna
X = rina,
Y = panna ;
rina --> first Cousin --> zaman
X = rina,
Y = zaman ;
shahin --> first Cousin --> nazmul
X = shahin,
Y = niamul;
shahin --> first Cousin --> panna
X = shahin,
Y = panna ;
shahin --> first Cousin --> zaman
X = shahin,
Y = zaman ;
nourin --> first Cousin --> emon
X = nourin,
Y = emon ;
emon --> first Cousin --> nourin
X = emon,
Y = nourin ;
nourin --> first Cousin --> emon
X = nourin,
Y = emon ;
emon --> first Cousin --> nourin
X = emon,

X = nazmul, Y = panna ; nazmul --> first Cousin --> zaman X = nazmul, Y = zaman ;	Y = nourin ; false.

Rules against 2nd cousin:(result)

?- secondcousin(X,Y). saair --> Second Cousin --> nourin X = saair, Y = nourin ; saair --> Second Cousin --> nourin X = saair, Y = nourin ; saair --> Second Cousin --> emon X = saair, Y = emon ; saair --> Second Cousin --> emon X = saair, Y = emon ; saair --> Second Cousin --> simam X = saair, Y = simam ; saair --> Second Cousin --> simam X = saair, Y = simam ; nourin --> Second Cousin --> saair X = nourin, Y = saair ; nourin --> Second Cousin --> saair X = nourin, Y = saair ; nourin --> Second Cousin --> simam X = nourin, Y = simam ; nourin --> Second Cousin --> simam X = nourin, Y = simam ; emon --> Second Cousin --> saair X = emon, Y = saair ;	emon --> Second Cousin --> saair X = emon, Y = saair ; emon --> Second Cousin --> simam X = emon, Y = simam ; emon --> Second Cousin --> simam X = emon, Y = simam ; simam --> Second Cousin --> saair X = simam, Y = saair ; simam --> Second Cousin --> saair X = simam, Y = saair ; simam --> Second Cousin --> nourin X = simam, Y = nourin ; simam --> Second Cousin --> nourin X = simam, Y = nourin ; simam --> Second Cousin --> emon X = simam, Y = emon ; simam --> Second Cousin --> emon X = simam, Y = emon ; false.

Rules against 1st cousin once removed:(result)

?- cousin_once_removed(X,Y).
nazmul --> first cousin once removed --> nourin
X = nazmul,
Y = nourin ;
nazmul --> first cousin once removed --> emon
X = nazmul,
Y = emon ;
nazmul --> first cousin once removed --> simam
X = nazmul,
Y = simam ;
niamul --> first cousin once removed --> nourin
X = niamul,
Y = nourin ;
niamul --> first cousin once removed --> emon
X = niamul,
Y = emon ;
niamul --> first cousin once removed --> simam
X = niamul,
Y = simam ;
panna --> first cousin once removed --> saair
X = panna,
Y = saair ;
panna --> first cousin once removed --> simam
X = panna,
Y = simam ;
zaman --> first cousin once removed --> saair
X = zaman,
Y = saair ;
zaman --> first cousin once removed --> simam
X = zaman,
Y = simam ;
rina --> first cousin once removed --> saair
X = rina,
Y = saair ;
rina --> first cousin once removed --> nourin
X = rina,
Y = nourin ;
rina --> first cousin once removed --> emon
X = rina,
Y = emon ;
shahin --> first cousin once removed --> saair
X = shahin,
Y = saair ;

nazmul --> first cousin once removed --> emon
X = nazmul,
Y = emon ;
nazmul --> first cousin once removed --> simam
X = nazmul,
Y = simam ;
niamul --> first cousin once removed --> nourin
X = niamul,
Y = nourin ;
niamul --> first cousin once removed --> emon
X = niamul,
Y = emon ;
niamul --> first cousin once removed --> simam
X = niamul,
Y = simam ;
panna --> first cousin once removed --> saair
X = panna,
Y = saair ;
panna --> first cousin once removed --> simam
X = panna,
Y = simam ;
zaman --> first cousin once removed --> saair
X = zaman,
Y = saair ;
zaman --> first cousin once removed --> simam
X = zaman,
Y = simam ;
rina --> first cousin once removed --> saair
X = rina,
Y = saair ;
rina --> first cousin once removed --> nourin
X = rina,
Y = nourin ;
rina --> first cousin once removed --> emon
X = rina,
Y = emon ;
shahin --> first cousin once removed --> saair
X = shahin,
Y = saair ;
shahin --> first cousin once removed --> nourin
X = shahin,
Y = nourin ;
shahin --> first cousin once removed --> emon

shahin --> first cousin once removed --> nourin	X = shahin,
X = shahin,	Y = emon ;
Y = nourin ;	emon --> first cousin once removed --> sobuj
shahin --> first cousin once removed --> emon	X = emon,
X = shahin,	Y = sobuj ;
Y = emon ;	emon --> first cousin once removed --> sobuj
nazmul --> first cousin once removed --> nourin	X = emon,
X = nazmul,	Y = sobuj ;
Y = nourin ;	false.

Rules against 1st cousin twice removed:(result)

?- cousin_twice_removed(X,Y).	nazmul --> first cousin twice removed --> sobuj
nazmul --> first cousin twice removed --> sobuj	X = nazmul,
X = nazmul,	Y = sobuj ;
Y = sobuj ;	niamul --> first cousin twice removed --> sobuj
niamul --> first cousin twice removed --> sobuj	X = niamul,
X = niamul,	Y = sobuj ;
Y = sobuj ;	rina --> first cousin twice removed --> sobuj
rina --> first cousin twice removed --> sobuj	X = rina,
X = rina,	Y = sobuj ;
Y = sobuj ;	shahin --> first cousin twice removed --> sobuj
shahin --> first cousin twice removed --> sobuj	X = shahin,
X = shahin,	Y = sobuj ;
Y = sobuj ;	false.