UNIVERSITY OF ASIA PACIFIC

Assignment-01

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Sec: B(B1)

Submitted To:

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Problem Statement: Implement a basic family relationship tree structure of your own family using Prolog. Write rules against degree and removal for up to 3rd degree and twice removed situation.

Used Tools: Draw.io, Prolog

Family Tree:

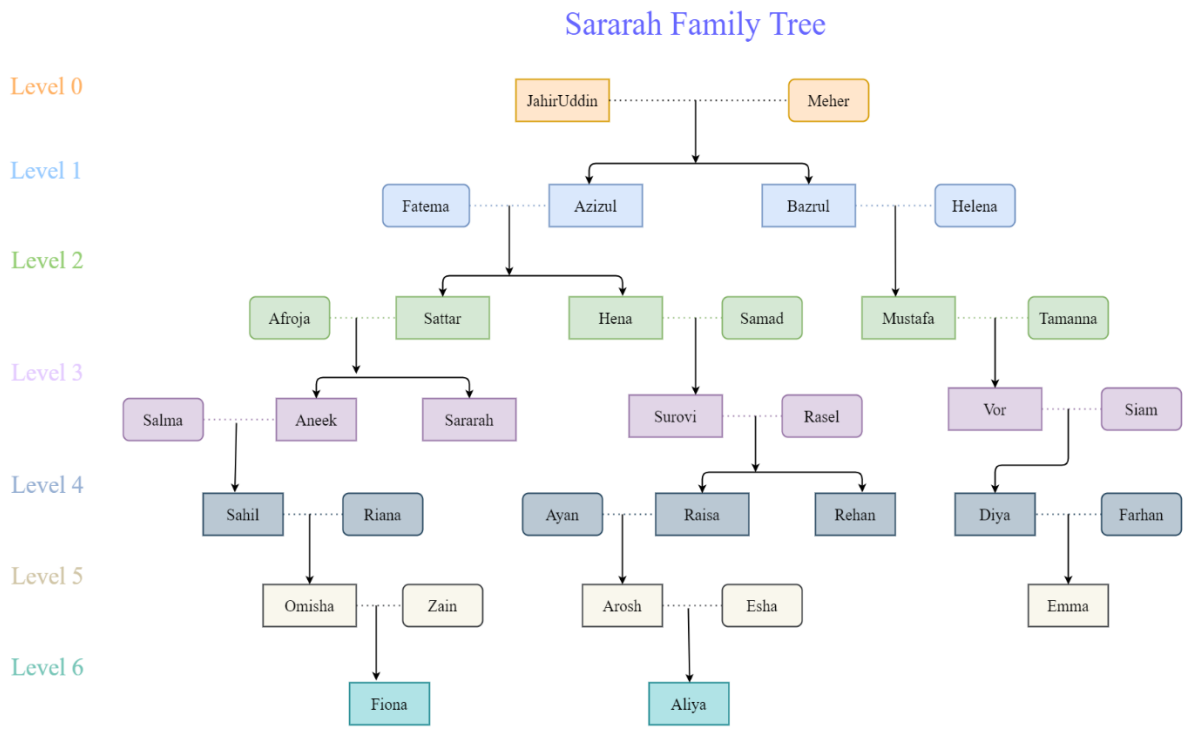

Fig-01: Diagram of Family Tree

This is my family tree ,here I have shown the whole relationship among my family members. Here I have used some dummy datas for extending my tree.

Sample Output:

```
% g:/Adeti uap/7th Semester/AI Lab/Assignment_family_t
-2 clauses
?-
|    father(X,Y).
X = jahiruddin,
Y = azizul ;
X = jahiruddin,
Y = bazrul ;
X = azizul,
Y = sattar ;
X = sattar,
Y = aneek ;
X = aneek,
Y = sahil ;
X = sahil,
Y = omisha ;
X = zain,
Y = fiona ;
X = sattar,
Y = sararah ;
```

```
?- mother(X,Y).
X = meher,
Y = azizul ;
X = meher,
Y = bazrul ;
X = fatema,
Y = sattar ;
X = fatema,
Y = hena ;
X = afroja,
Y = aneek ;
X = afroja,
Y = sararah ;
X = salma,
Y = sahil ;
X = riana,
Y = omisha ;
```

```
?- parent(X,Y).
X = jahiruddin,
Y = azizul ;
X = jahiruddin,
Y = bazrul ;
X = azizul,
Y = sattar ;
X = sattar,
Y = aneek ;
X = aneek,
Y = sahil ;
X = sahil,
Y = omisha ;
X = zain,
Y = fiona ;
X = sattar,
Y = sararah ;
X = azizul,
Y = hena ;
```

```
?- grandparent(X,Y).
X = jahiruddin,
Y = sattar ;
X = meher,
Y = sattar ;
X = azizul,
Y = aneek ;
X = fatema,
Y = aneek ;
X = sattar,
Y = sahil ;
X = afroja,
Y = sahil ;
X = aneek,
Y = omisha ;
X = salma,
Y = omisha ;
X = azizul,
Y = sararah ;
X = fatema,
Y = sararah ;
X = jahiruddin,
Y = hena ;
```

```
?- sibling(X,Y).
X = azizul,
Y = bazrul ;
X = bazrul,
Y = azizul ;
X = sattar,
Y = hena ;
X = aneek,
Y = sararah ;
X = sararah,
Y = aneek ;
X = hena,
Y = sattar ;
X = raisa,
Y = rehan ;
```

```
?- parentsinlaw(X,Y).
X = jahiruddin,
Y = fatema ;
X = meher,
Y = fatema ;
X = azizul,
Y = afroja ;
X = fatema,
Y = afroja ;
X = sattar,
Y = salma ;
X = afroja,
Y = salma ;
X = aneek,
Y = riana ;
X = salma,
Y = riana ;
```

```
?- cousin(X,Y).
X = sattar,
Y = mustafa ;
X = sattar,
Y = mustafa ;
X = aneek,
Y = surovi ;
X = aneek,
Y = surovi ;
X = sararah,
Y = surovi ;
X = sararah,
Y = surovi ;
X = hena,
Y = mustafa ;
X = hena,
```

```
?- firstcousinonceremoved(X,Y).
X = aneek,
Y = mustafa ;
X = sararah,
Y = mustafa ;
X = aneek,
Y = mustafa ;
X = sararah,
Y = mustafa ;
X = sahil,
Y = surovi ;
X = sahil,
Y = surovi ;
X = surovi,
Y = mustafa ;
X = surovi,
Y = mustafa ;
```

```
?- secondcousintwiceremoved(X,Y).
X = omisha,
Y = vor ;
X = omisha,
Y = vor ;
X = aliya,
Y = sahil ;
X = aliya,
Y = sahil ;
X = fiona,
Y = raisa ;
X = fiona,
Y = rehan ;
X = fiona,
Y = raisa ;
X = fiona,
Y = rehan ;
```

```
?- thirdcousintwiceremoved(X,Y).
X = aliya,
Y = diya ;
X = aliya,
Y = diya ;
X = fiona,
Y = diya ;
X = fiona,
Y = diya ;
```

Conclusion: During doing this assignment, I have faced some difficulties doing codes in prolog. I also faced operator related issues so I had googled for it. The concept of cousin relationship was little bit confused and I was not perfectly clear so, I have watched the lab class video recording for doing the assignment perfectly.