

EX.NO: 7

DATE: 04 - 10 - 2024

PROLOG FAMILY TREE

AIM:

To develop a family tree program using PROLOG with all possible facts, rules, and queries.

SOURCE CODE:

KNOWLEDGE BASE:

```
/*FACTS :: */
```

```
male(peter).  
male(john).  
male(chris).  
male(kevin).
```

```
female(betty).  
female(jeny).  
female(lisa).  
female(helen)
```

```
parentOf(chris,peter).  
parentOf(chris,betty).  
parentOf(helen,peter).  
parentOf(helen,betty).  
parentOf(kevin,chris).  
parentOf(kevin,lisa).  
parentOf(jeny,john).  
parentOf(jeny,helen).
```

```
/*RULES :: */
```

```
/* son,parent
```

```
son,grandparent*/
```

```
father(X,Y):- male(Y), parentOf(X,Y).
```

```
mother(X,Y):- female(Y), parentOf(X,Y).
```

```
grandfather(X,Y):- male(Y),parentOf(X,Z),parentOf(Z,Y).
```

```
grandmother(X,Y):- female(Y),parentOf(X,Z),parentOf(Z,Y).
```

```
brother(X,Y):- male(Y), father(X,Z), father(Y,W),Z==W.
```

```
sister(X,Y):- female(Y), father(X,Z),father(Y,W),Z==W.
```

OUTPUT:

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male(Y), parentOf(X,Y).								
Y			X					
peter			chris			1		
peter			helen			2		
john			jeny			3		
chris			kevin			4		
false								
female(Y), parentOf(X,Y).								
Y			X					
betty			chris			1		
betty			helen			2		
lisa			kevin			3		
helen			jeny			4		
male(Y),parentOf(X,Z),parentOf(Z,Y).								
Y		X		Z				
peter		kevin		chris		1		
peter		jeny		helen		2		
false								
female(Y),parentOf(X,Z),parentOf(Z,Y).								
Y		X		Z				
betty		kevin		chris		1		
betty		jeny		helen		2		
false								
male(Y), father(X,Z), father(Y,W),Z==W.								
procedure `father(A,B)` does not exist								
female(Y), father(X,Z),father(Y,W),Z==W.								
procedure `father(A,B)` does not exist								
?- Examples History Solutions								
table results Run!								

RESULT:

Thus, we have developed a family tree program using PROLOG with all possible facts, rules, and queries.