

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/ai/ai-assign02$ swipl
Welcome to SWI-Prolog (threaded, 64 bits, version 8.2.4)
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```

```
For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).
```

```
?- consult('u19cs009-ai-assign01-family-tree.pl').
true.
```

```
?- %Is Albert a parent of Peter?
|   parent('albert','peter').
true .
```

```
?- %Who is the child of Jim?
|   parent('jim',X).
X = brian.
```

```
?- %Who are the parents of Brian?
|   findall(X,parent(X,'brian'),B).
B = [jim, pat].
```

```
?- %Parents of brian are : jim and pat.
|   true.
true.
```

```
?- %Is Irene a grandparent of Brian?
|   parent('irene',X),parent(X,'brian').
X = jim .
```

```
?- %Here X has a value,Jim, so it means Irene is grandparent of Brian.
|   true
|   .
true.
```

```
?- %Find all the grandchildren of Irene.
|   findall(Y,(parent('irene',X),parent(X,Y)),B).
B = [brian, lee, sandra, james, kate, kyle].
```

```
?- %Here all members of B are grandchildren of irene.
|   true.
true.
```

```
?- consult('u19cs009-ai-assign01-family-tree.pl').
true.
```

```
?- %Who is older than Pat?
|   findall(X,older(X,'pat'),B).
B = [irene, albert, jim, peter].
```

```
?- %Here members of B are older than pat.
|   true.
true.
```

```
?- %Who is younger than Darren?
|   findall(X,older('darren',X),B).
B = [jenny, amanda].
```

```
?- %Here all the members of B are younger than darren.
```

```
| true.  
true.
```

```
?- %List the siblings of Sandra.  
| findall(Y, (parent(X, 'sandra'), parent(X, Y)), B).  
B = [lee, sandra, james, kate, kyle].
```

```
?- %Here all the members of B are siblings of sandra.  
| true.  
true.
```

```
?- %Who is the older brother of Sandra?  
|  
findall(Y, (parent(X, 'sandra'), parent(X, Y), older(Y, 'sandra'), male(Y)), B).  
B = [james].
```

```
?- %Here James is the brother of sandra who is older than her.  
| true.  
true.
```

```
?- %Find the predecessors of Kyle.  
| findall(X, predecessor(X, 'kyle'), B).  
B = [peter, albert, irene].
```

```
?- %Predecessor of Kyle are listed in B.  
| true.  
true.
```

```
?- %Does Kate have a sister?  
| findall(Y, (parent(X, 'kate'), parent(X, Y), female(Y), Y \== 'kate'), B).  
B = [lee, sandra].
```

```
?- %Kate's sisters are : Lee and Sandra.  
| true.  
true.
```

```
?- %How many females and males are there in the knowledge base?  
| %Number of males are :  
| countMales(X).  
X = 8.
```

```
?- %How many females and males are there in the knowledge base?  
| %Number of females are :  
| countFemales(X).  
X = 7.
```

```
?- ^C  
Action (h for help) ? exit (status 4)  
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