

Batch: A4

Experiment Number:5

Roll Number: 1914072

Name: Astha Thakur

Program/Steps:

Code:

```
/* Facts */ male(aayush).
```

```
male(vivek).
```

```
male(ranjit).
```

```
male(james).
```

```
female(asha).
```

```
female(mona).
```

```
female(akshara).
```

```
female(prem).
```

```
parent_of(vivek, aayush).
```

```
parent_of(ranjit, vivek).
```

```
parent_of(asha, vivek).
```

```
parent_of(vivek, akshara).
```

```
parent_of(mona,aayush).
```

```
parent_of(mona, akshara).
```

```
parent_of(nani, mona).
```

```
/* Rules */
```

```
father_of(X,Y):- male(X),
```

```
parent_of(X,Y).
```

```
mother_of(X,Y):- female(X),
```

```
parent_of(X,Y).
```

```
grandfather_of(X,Y):- male(X),
```

```
parent_of(X,Z),   parent_of(Z,Y).
```

```
grandmother_of(X,Y):- female(X),
```

```
parent_of(X,Z),   parent_of(Z,Y).
```

```
sister_of(X,Y):-   %(X,Y   or   Y,X)%
```

```
female(X),           father_of(F,   Y),
```

```
father_of(F,X),X \= Y. sister_of(X,Y):-
```

female(X), mother_of(M, Y),
 mother_of(M,X),X \= Y.

aunt_of(X,Y):- female(X),
 parent_of(Z,Y), sister_of(Z,X),!.

brother_of(X,Y):- %(X,Y or Y,X)%
 male(X), father_of(F, Y),
 father_of(F,X),X \= Y.

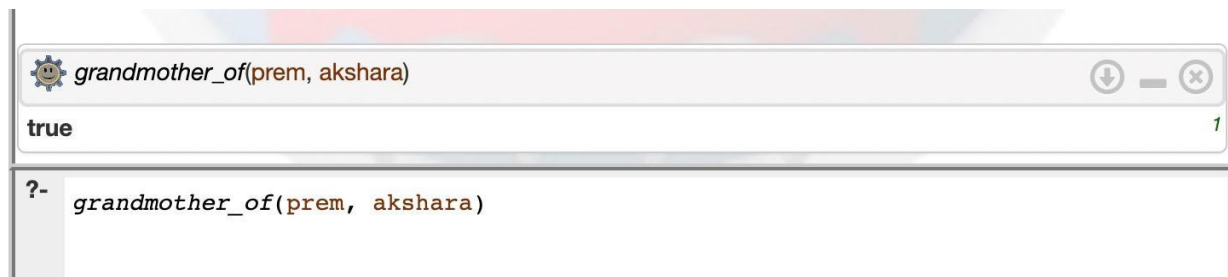
brother_of(X,Y):- male(X), mother_of(M,
 Y), mother_of(M,X),X \= Y.

uncle_of(X,Y):- parent_of(Z,Y),
 brother_of(Z,X).

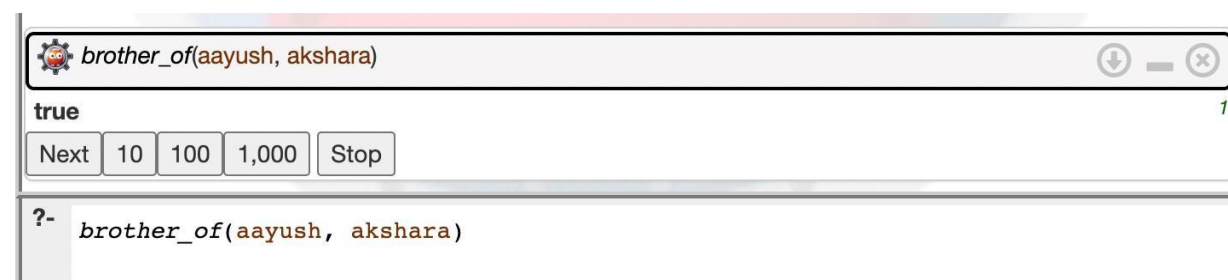
ancestor_of(X,Y):- parent_of(X,Y).
 ancestor_of(X,Y):- parent_of(X,Z),
 ancestor_of(Z,Y).

Output/Result:

A Prolog query window titled `grandfather_of(ranjit, akshara)`. The window shows the result `true` and a count of 1. Below the window, the query is repeated: `?- grandfather_of(ranjit, akshara)`.



A Prolog query window titled `grandmother_of(prem, akshara)`. The window shows the result `true` and a count of 1. Below the window, the query is repeated: `?- grandmother_of(prem, akshara)`.



A Prolog query window titled `brother_of(aayush, akshara)`. The window shows the result `true` and a count of 1. Below the window, the query is repeated: `?- brother_of(aayush, akshara)`. The window also includes a control bar with buttons for `Next`, `10`, `100`, `1,000`, and `Stop`.

