

AI LAB

Assignment 9

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Section: CSE P

1. Write a PROLOG program to find the number is ODD or EVEN.

Code:

even(X):-

0 is mod(X,2).

odd(X):-

1 is mod(X,2).

```
even.pl
even(X):-
    0 is mod(X,2) .
odd(X):-
    1 is mod(X,2) .
▲
```

Output:

```
% d:/onedrive/desktop/srm while class/sem 5/ai lab/week9/
0 clauses
?- even(4).
true.

?- even(3).
false.

?- odd(4).
false.

?- odd(3).
true.

?- ■
```

2. Define your family members of the Pandavas of the Mahabharat. Define a relationship of grandfather and grandmother using rules.

Code:

male(pandu).

male(yudhisthir).

male(bheem).

male(arjun).

male(nakul).

male(sahadev).

male(abhimanyu).

female(kunti).

female(madri).

female(subhadra).

parent(yudhisthir, pandu).

parent(bheem, pandu).

parent(arjun, pandu).

parent(nakul, pandu).

parent(sahadev, pandu).

parent(yudhisthir, kunti).

parent(bheem, kunti).

parent(arjun, kunti).

parent(nakul, madri).

parent(sahadev, madri).

parent(abhimanyu, arjun).

parent(abhimanyu, subhadra).

grand_father(X,Y):-

parent(X,Z),

parent(Z,Y),

male(Y).

grand_mother(X,Y):-

parent(X,Z),

parent(Z,Y),

female(Y).

relationship.pl

male(pandu).

male(yudhisthir).

male(bheem).

male(arjun).

male(nakul).

male(sahadev).

male(abhimanyu).

female(kunti).

female(madri).

female(subhadra).

parent(yudhisthir, pandu).

parent(bheem, pandu).

parent(arjun, pandu).

parent(nakul, pandu).

parent(sahadev, pandu).

parent(yudhisthir, kunti).

parent(bheem, kunti).

parent(arjun, kunti).

parent(nakul, madri).

parent(sahadev, madri).

parent(abhimanyu, arjun).

parent(abhimanyu, subhadra).

grand_father(X, Y) :-

parent(X, Z),

parent(Z, Y),

male(Y).

grand_mother(X, Y) :-

parent(X, Z),

parent(Z, Y),

female(Y).

Output:

```
% d:/onedrive/desktop/srm while class/sem 5/ai lab
.00 sec, 0 clauses
?- grand_father(abhimanyu,pandu).
true .

?- grand_father(arjun,pandu).
false.

?- grand_mother(abhimanyu,kunti).
true .

?- grand_mother(arjun,kunti).
false.

?-
```