

Practical – 2

A. Implement the following prolog programs.

- a. To find the greatest variable among the three variable.
- b. To find factorial of a given number.
- c. To check whether a given number is palindrome or not.
- d. To check whether a given number is prime or not.

PROGRAM:

a. To find the greatest variable among the three variable.

```
go:-
    write("Enter No.1 "),
    read(No1),nl,
    write("Enter No.2 "),
    read(No2),nl,
    write("Enter No.3 "),
    read(No3),nl,
    max(No1,No2,No3).
max(No1,No2,No3):-No1>=No2,No1>=No3,write("maximum No. "),write(No1).
max(No1,No2,No3):-No2>=No1,No2>=No3,write("maximum No. "),write(No2).
max(No1,No2,No3):-No3>=No2,No3>=No1,write("maximum No. "),write(No3).
```

OUTPUT:

```
?- go.
Enter No.1 5.
Enter No.2 |: 7.
Enter No.3 |: 89.
maximum No. 89
true.
```

```
?- go.
Enter No.1 34.
Enter No.2 |: 54.
Enter No.3 |: 76.
maximum No. 76
true.
```

PROGRAM:

b. To find factorial of a given number.

```
go:-
    write("Enter non negative No.: "),
    read(No),
    Re is 1,
```

```
        factorial(No,Re).
factorial(No,Re):-
    No > 0,
    NewRe is (No * Re),
    NewNo is (No - 1),
    factorial(NewNo,NewRe).
factorial(_,Re):-
    write("Factorial: "),write(Re).
```

OUTPUT:

```
?- go.
Enter non negative No.: 4.
Factorial: 24
true .
```

```
?- go.
Enter non negative No.: 9.
Factorial: 362880
true .
```

PROGRAM:

c. To check whether a given number is palindrome or not.

```
go:-
    write("Enter Number: "),read(No),
    Temp is No,
    Rev is 0,
    palindrome(No,Temp,Rev).
palindrome(No,Temp,Rev):-
    Temp>0,
    Re is (Temp mod 10),
    Num is (floor(Temp/10)),
    Res is (Rev*10+Re),
    palindrome(No,Num,Res).
palindrome(No,_,Rev):-
    No=Rev,
    write(No),write(" is palindrome number.").
palindrome(No,_,_):-
    write(No),write(" is not palindrome number.").
```

OUTPUT:

```
?- go.
Enter Number: 989898.
989898 is not palindrome number.
```

true .

?- go.

Enter Number: 88988.

88988 is palindrome number.

true .

PROGRAM:

d. To check whether a given number is prime or not.

go:-

write("Enter number: "),read(No),

prime(No).

prime(X) :- X<2,write("Number is special").

prime(2) :- write("Number is prime").

prime(X) :- X>2,divisible(X,3),write("Number is not prime").

prime(_) :- write("Number is prime").

divisible(X,Y) :- X mod Y==0,true.

divisible(X,Y) :- Yy is Y+1,Yy<X,divisible(X,Yy).

divisible(_,_) :- false.

OUTPUT:

?- go.

Enter number: 22.

Number is not prime

true .

?- go.

Enter number: 4.

Number is prime

true.