Faculty of Technology – Dharmsinh Desai University
Knowledge Systems
B.Tech (IT)- SEM 7

EXPERIMENT- 7

Aim:-Write program to study usage of recursion in prolog.

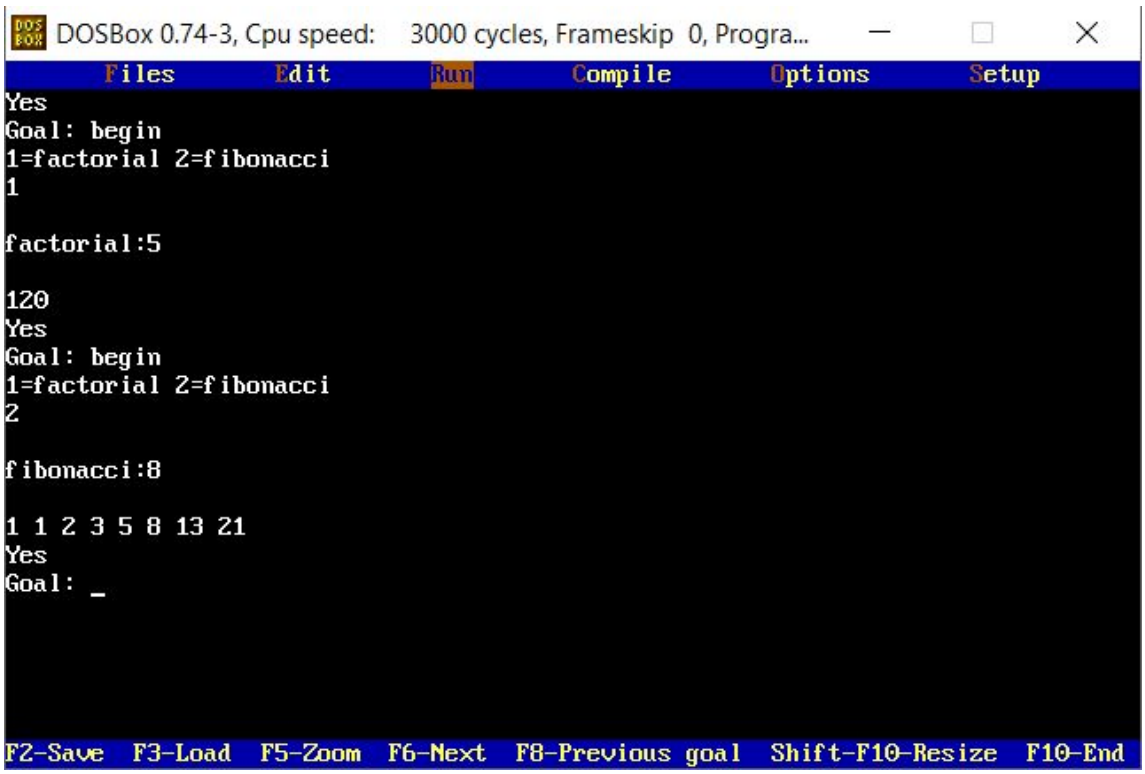
Write predicate fact(n) ,which finds and display factorial of a given number .

Write predicate fibbonacci (n) ,which finds the series for first "n" values .

Code

```
predicates
begin
start(integer)
fact(integer,integer)
fib(integer,integer,integer)

clauses

begin:-write("1=factorial 2=fibonacci "),nl,readint(N),nl,start(N).

start(1):-write("factorial:"),readint(N),nl,fact(N,N).
start(2):-write("fibonacci:"),readint(N),nl,fib(N,0,1).

fact(X,1):-write(X),nl.
fact(A,B):-Y=B-1,Z=A*Y,fact(Z,Y).

fib(1,_,E):-write(E),nl.
fib(X,Y,Z):-write(Z," "),C=Y+Z,B=Z,A=X-1,fib(A,B,C).
```

OUTPUT


DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
Files Edit Run Compile Options Setup
Yes
Goal: begin
1=factorial 2=fibonacci
1
factorial:5
120
Yes
Goal: begin
1=factorial 2=fibonacci
2
fibonacci:8
1 1 2 3 5 8 13 21
Yes
Goal: _
F2-Save F3-Load F5-Zoom F6-Next F8-Previous goal Shift-F10-Resize F10-End