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Program Ex3;

Type

```
Tren=^celule;  
Celule=record  
nrinmat:integer;  
situatiain:string;  
anulfabricarii:integer;  
tipulvagon:string;  
capacitate:real;  
proprietar:string;  
pre:Tren;  
end;  
var p, r, v:Tren;  
c:integer;  
s:Tren;
```

Procedure Creare;

```
var r:Tren;  
Begin  
new(r);  
writeln('Introdu nr de inm');  
readln(r^.nrinmat);  
writeln('Introdu situatia de inm');  
readln(r^.situatiain);  
writeln('Introdu Anul Fabricarii');  
readln(r^.anulfabricarii);  
writeln ('Introdu tip vagon');  
readln(r^.tipulvagon);  
writeln('Introdu capacitatea de incarcare');  
readln(r^.capacitate);  
writeln('Introdu proprietar');  
readln(r^.proprietar);  
r^.pre:=s;  
s:=r;  
end;
```

Procedure Afisare;

```
var r:Tren;  
Begin  
If s=nil then writeln('Stiva inexistentă')  
else  
Begin  
writeln('Stiva include elementele');  
r:=s;  
while r<>nil do  
begin  
writeln(r^.nrinmat);  
writeln(r^.situatiain);  
writeln(r^.anulfabricarii);  
writeln(r^.tipulvagon);  
writeln(r^.capacitate);
```

```
writeln(r^.proprietar);
r:=r^.pre;
end;
end;
end;

Begin
s:=nil;
repeat
writeln('meniu:');
writeln('1 - Creare');
writeln('2 - Afisare');
writeln('3 - Oprire');
write('optiunea : ');
readln(c);
case c of
1 : Creare;
2 : Afisare;
3 :
else writeln('optiuni necunoscute')
end;
until c=3;
end.
```

```

Program Ex4;
type adresa=^celula;
celula=record
    nume:string;
    prenume:string;
    anul:integer;
    dataangajarii:string;
    prec:adresa;
end;

var s:adresa;
n,i:integer;

procedure Introducere;
var r:adresa;
begin
    new(r);
    writeln('introduceti numele si prenumele'); readln(r^.nume);
    readln(r^.prenume);
    writeln('introduceti anul nasterii'); readln(r^.anul);
    writeln('introduceti data angajarii'); readln(r^.dataangajarii);
    r^.prec:=s;
    s:=r;
end;

procedure Afisare;
var r :adresa;
begin
    if s=nil then writeln('stiva e vida')
        else begin
            writeln('stiva este ');
            r:=s;
            while r<>nil do begin
                writeln(r^.nume , r^.prenume, r^.anul,
r^.dataangajarii);
                r:=r^.prec;
            end;
        end;

end;
end;

begin
    writeln ('introduceti nr de elem'); readln(n);
    s:=nil;
    for i:=1 to n do
        introduce;
        afisare;
    end.

```

```

Program Ex2;
type adresa=^celula;
   celula = record
      numar:integer;
      tipul:string;
      numarruta:integer;
      urm:adresa;
   end;

var p,u:adresa;
n,i:integer;
procedure introducecere;
var r:adresa;
begin
  new(r);
  writeln('introduceti nr avionului'); readln(r^.numar);
  writeln('introduceti tipul'); readln(r^.tipul);
  writeln('introduceti numarul rutei'); readln(r^.numarruta);
  r^.urm:=nil;
  if p = nil then begin p:=r; u:=r; end
    else begin u^.urm:=r; u:=r; end;
end;

procedure afisare;
var r:adresa;
begin
  if p=nil then writeln('coada vida')
    else begin
      write('coada este ');
      r:=p;
      while r<>nil do
        begin
          writeln('element:');
          writeln(r^.numar);
          writeln(r^.tipul);
          writeln(r^.numarruta);
          r:=r^.urm;
        end;
      end;
end;

procedure pl;
//procedura 1 = afiseaza avione cu acelasi nr de ruta
var r:adresa;
x:integer;
begin
  if p=nil then writeln('coada vida') else
    begin
      r:=p; writeln('introdu ruta cautata'); readln(x);
      while r<>nil do
        if r^.numarruta=x then begin writeln('element:');
          writeln(r^.numar);
          writeln(r^.tipul);
          writeln(r^.numarruta);
          r:=r^.urm;
        end
        else r:=r^.urm;
      end;
end;
end;
end;

```

```
begin  
writeln('introduceti nr de elem'); readln(n);  
for i :=1 to n do  
  introducere; afisare; p1;  
end.
```