```
Program Ex_3;
type AdresaCandidat=^Candidat;
Candidat=record
NumePrenume:string;
NotaMedie:real;
Urm:AdresaCandidat;
end;
var p,c,l:AdresaCandidat;
n:integer;

procedure creare;
var i:integer;
u:AdresaCandidat;
begin
write('n='); readln(n);
writeln('Dati datele candidatilor');
new(c);
readln(c^.NumePrenume);
readln(c^.NotaMedie);
c^.Urm:=nil;
p:=c; u:=c;
for i:=2 to n do begin
new(c);
readln(c^.NumePrenume);
readln(c^.NotaMedie);
c^.Urm:=nil;
u^.Urm:=c;
u:=c;
end;
end;


procedure afisare;
begin
writeln('Lista:');
c:=p;
while c<>nil do begin
writeln(c^.NumePrenume);
writeln(c^.NotaMedie);
c:=c^.Urm;
end;
end;


procedure Excludere;
label 1;
var u:AdresaCandidat;
Nume:string;
begin
writeln('Ce candidat isi retrage actele?');
readln(Nume);
c:=p;
u:=c;
while c<>nil do begin
if c^.NumePrenume=Nume then goto 1;
u:=c;
c:=c^.Urm;
end;
1:if c=nil then writeln('Nu exista numele') else begin
if c=p then p:=c^.urm else u^.urm:=c^.urm; dispose(c);
end;
end;

procedure Includere;
```

```
label 1;
var q:AdresaCandidat;
Nume:string;
begin
new(q);
writeln('Ce candidat isi depune actele?');
readln(q^.NumePrenume);
readln(q^.NotaMedie);
writeln('Dupa cine va fi in lista?');
readln(Nume);
c:=p;
while c<>nil do
begin
if c^.NumePrenume=Nume then goto 1;
c:=c^.Urm;
end;
1:if c=nil then begin
writeln('Nu exista numele'); dispose(q); end
else begin
q^.Urm:=c^.Urm;
c^.Urm:=q;
end;
end;

procedure candidati_peste_sapte_si_cinci;
begin
c:=p;
writeln('Medie peste 7.5 au urmatorii candidati:');
while c<>nil do begin
if c^.NotaMedie>7.5 then  begin write(c^.NumePrenume); writeln(' ',
c^.NotaMedie);
end;
c:=c^.Urm;
end;
end;


procedure creare2;
var q,u:AdresaCandidat;
begin
l:=nil; c:=p;
while c<>nil do
begin
if c^.NotaMedie>9 then
begin new(q); q^.NumePrenume:=c^.NumePrenume;
q^.NotaMedie:=c^.NotaMedie; q^.Urm:=nil;
if l=nil then begin l:=q; u:=q; end
else begin u^.urm:=q; u:=q; end;
end;
c:=c^.urm;
end;
end;

procedure afisare2;
begin
writeln('Candidatii cu media mai mare de 9.0:');
c:=l;
while c<>nil do
begin writeln(c^.NumePrenume,' ', c^.NotaMedie); c:=c^.urm; end;
end;


procedure excludere_sub_sase;
var u:AdresaCandidat;
```

```
begin
 c:=p; u:=c;
 while c<>nil do
 begin if c^.NotaMedie<6.0
 then if p=c then begin p:=c^.urm; u:=p; dispose(c); c:=u; end
 else begin u^.urm:=c^.urm; dispose(c); c:=u^.urm; end
 else begin u:=c; c:=c^.urm; end;
 end;
 writeln('Excludem candidatii cu medii mai mici de 6');
end;


begin
creare; afisare; excludere; includere; afisare;
candidati_peste_sapte_si_cinci; creare2; afisare2;
excludere_sub_sase; afisare;
end.
```

```
Program Ex_4a;
type AdresaElev=^Elev;
Elev=record
NumePrenume:string;
Urm:AdresaElev;
end;
var p,c,l:AdresaElev;
n,m:integer;
Nume:string;

procedure creare;
    var i:integer;
    u:AdresaElev;
begin
    writeln('n='); readln(n);
    writeln('Dati numele din lista');
    new(c);
    readln(c^.NumePrenume);
    c^.Urm:=nil;
    p:=c; u:=c;
    for i:=2 to n do begin
        new(c);
        readln(c^.NumePrenume);
        c^.Urm:=nil;
        u^.Urm:=c;
        u:=c;
    end;
end;

procedure afisare(q:AdresaElev);
begin
writeln('Lista:');
c:=q;
while c<>nil do begin
writeln(c^.NumePrenume);
c:=c^.Urm;
end;
end;
```

```
procedure ordonare( var p : AdresaElev );
var
  prev, current, next : AdresaElev;
  tmp : AdresaElev;
  notSwapped:boolean;
begin
    repeat
        notSwapped := true;
        current := p;
        prev := nil;
        while current <> nil do
          begin
            next := current^.Urm;
            if (next <> nil) and (current^.NumePrenume > next^.NumePrenume)
then
            begin
                if p = current then p := next;

                if (prev <> nil) then prev^.Urm := next;
                current^.Urm := next^.Urm;
                next^.Urm := current;


                tmp := current;
                current := next;
                next := tmp;
                notSwapped := false;
            end;

            prev := current;
            current := current^.Urm;
        end;
    until notSwapped;
end;

begin
creare; afisare(p); ordonare(p); afisare(p);
end.
```

```
Program Ex_4b;
type AdresaElev=^Elev;
Elev=record
NumePrenume:string;
Urm:AdresaElev;
end;
var p,c,l:AdresaElev;
n,m:integer;
Nume:string;

procedure creare1;
var i:integer;
u:AdresaElev;
begin
write('n='); readln(n);
writeln('Dati numele din lista');
new(c);
readln(c^.NumePrenume);
c^.Urm:=nil;
p:=c; u:=c;
for i:=2 to n do begin
new(c);
readln(c^.NumePrenume);
```

```
c^.Urm:=nil;
u^.Urm:=c;
u:=c;
end;
end;

procedure creare2;
var i:integer;
u:AdresaElev;
begin
write('m='); readln(m);
writeln('Dati numele din lista');
new(c);
readln(c^.NumePrenume);
c^.Urm:=nil;
l:=c; u:=c;
for i:=2 to m do begin
new(c);
readln(c^.NumePrenume);
c^.Urm:=nil;
u^.Urm:=c;
u:=c;
end;
end;

procedure afisare(q:AdresaElev);
begin
writeln('Lista:');
c:=q;
while c<>nil do begin
writeln(c^.NumePrenume);
c:=c^.Urm;
end;
end;

procedure concatenare;
begin
c:=p;
while c^.urm<>nil do
c:=c^.urm;
c^.urm:=l;
end;

begin
creare1; afisare(p); creare2; afisare(l); concatenare; afisare(p);
end.



Program Ex_4c;
type AdresaElev=^Elev;
Elev=record
NumePrenume:string;
Urm:AdresaElev;
end;
var p,c,l:AdresaElev;
n,m:integer;
Nume:string;

procedure creare;
var i:integer;
u:AdresaElev;
begin
write('n='); readln(n);
```

```
writeln('Dati numele din lista');
new(c);
readln(c^.NumePrenume);
c^.Urm:=nil;
p:=c; u:=c;
for i:=2 to n do begin
new(c);
readln(c^.NumePrenume);
c^.Urm:=nil;
u^.Urm:=c;
u:=c;
end;
end;

procedure afisare(q:AdresaElev);
begin
writeln('Lista:');
c:=q;
while c<>nil do begin
writeln(c^.NumePrenume);
c:=c^.Urm;
end;
end;

procedure descompunere;
label 1;
begin
c:=p;
writeln('Dati ultimul nume din prima lista');
readln(Nume);
while c<>nil do
begin
if c^.NumePrenume=Nume then goto 1;
c:=c^.Urm;
end;
1:if c=nil then begin
writeln('Nu exista numele'); dispose(p); end
else begin
l:=c^.urm;
c^.urm:=nil;
end;
end;

begin
creare; afisare(p); descompunere; afisare(p); afisare(l);
end.




Program Ex_4d;
type AdresaElev=^Elev;
Elev=record
NumePrenume:string;
Urm:AdresaElev;
end;
var p,c,l:AdresaElev;
n,m:integer;
Nume:string;

procedure creare;
var i:integer;
u:AdresaElev;
```

```
begin
write('n='); readln(n);
writeln('Dati numele si prenumele elevilor din lista');
new(c);
readln(c^.NumePrenume);
c^.Urm:=nil;
p:=c; u:=c;
for i:=2 to n do begin
new(c);
readln(c^.NumePrenume);
c^.Urm:=nil;
u^.Urm:=c;
u:=c;
end;
end;

procedure afisare;
begin
writeln('Lista:');
c:=p;
while c<>nil do begin
writeln(c^.NumePrenume);
c:=c^.Urm;
end;
end;

procedure selecteaza;
begin
c:=p;
writeln('Elevii al caror nume incepe cu A');
while c<>nil do begin
if c^.NumePrenume[1]='A' then writeln(c^.NumePrenume);
c:=c^.urm;
end;
end;

begin
creare; afisare; selecteaza;
end.
```