```pascal
 program ex3;
  type AdresaCandidat=^Candidat;
 Candidat=record
 Numeprenume :string;
 notamedia :real;
 Urm :AdresaCandidat;
 end;

  var i,n : integer; nume,q:string; media : real; p,r,v,u : AdresaCandidat;

procedure creare(var p:AdresaCandidat);
begin write('introdu elevul  '); readln(nume);
 while nume <>'final' do begin
 write('introdu media elevului ',nume,' '); readln(media);
 new(R); r^.numeprenume:=nume;
 r^.notamedia:=media; r^.urm:=nil;
 if P=nil then P:=R else v^.urm:=r;
 v:=r;
 write('Cheia de sfarsit e cuvantul final '); readln(nume);
 end;
end;

procedure exclude(var p:AdresaCandidat;var ne:integer);
begin ne:=0;  r:=p; v:=r;
 while r<>nil do
 begin if r^.notamedia<6.0
 then if P=r then begin P:=r^.urm; v:=p; dispose (r);r:=v; end
 else begin v^.urm:=r^.urm; dispose (r);r:=v^.urm; end
 else begin ne:=ne+1; v:=r; r:=r^.urm; end;
 end;
end;

procedure afisare1(var p:AdresaCandidat;var ne:integer);
begin r:=p;
 while r<>nil do
 begin if (r^.urm<>nil) and (r<>p)
 then writeln(r^.numeprenume:20,r^.notamedia:7:2);
 r:=r^.urm;
 end;
end;

procedure include(var p:AdresaCandidat);
begin writeln('Introduceti candidatul care depune actele');
readln(nume); readln(media);
new(R); r^.numeprenume:=nume; r^.notamedia:=media;
r^.urm:=p; P:=R;
end;
```

```pascal
procedure eminenti(var p,u:AdresaCandidat);
var q: AdresaCandidat;
begin u:=nil; r:=p;
 while r<>nil do
 begin if r^.notamedia>=9.0
 then begin new(q); q^.numeprenume:=r^.numeprenume;
 q^.notamedia:=r^.notamedia; q^.urm:=nil;
 if u=nil then begin u:=q; v:=q; end
 else begin v^.urm:=q; v:=q; end;
 end;
 r:=r^.urm;
 end;
end;

procedure exclude1(var p:AdresaCandidat;var ne:integer; q:string);
begin ne:=0;  r:=p; v:=r; writeln('Scrieti numele elevului exclus'); readln(q);
 while r<>nil do
 begin if r^.NumePrenume=q
 then if P=r then begin P:=r^.urm; v:=p; dispose (r);r:=v; end
 else begin v^.urm:=r^.urm; dispose (r);r:=v^.urm; end
 else begin ne:=ne+1; v:=r; r:=r^.urm; end;
 end;
end;

procedure afisare(u:AdresaCandidat);
begin R:=u;
 while R<>nil do
 begin writeln(r^.numeprenume:20,r^.notamedia:7:2); r:=r^.urm; end;
end;

begin
 p:=nil; creare(p); writeln('Lista initiala este'); afisare(p);
 include(p); writeln('Lista cu cel inclus la inceputul listei'); afisare(p);
 eminenti(p,u); writeln('Lista celor cu 9'); afisare(u);
 exclude(p,n); writeln('Lista dupa exmatriculare este'); afisare(p);
 exclude1(p,n,q); writeln('Lista dupa excludere este'); afisare(p);
end.
```

Program ex4b

```pascal
type
  sved = ^anketa;
  anketa = record
    fio: string;
    voz: byte;
    next: sved;
  end;

var
  first, first1: sved;
  last, last1: sved;
  p, p1: sved;
  n, i: byte;

begin
  write('Nr elementelor in lista:');readln(n);
  new(first);
  write('Introduceti numele si prenumele:');
  readln(first^.fio);
  write('Introduceti varsta:');
  readln(first^.voz);
  first^.next := nil;
  last := first;
  for i := 2 to n do
  begin
    new(p);
    write('Introduceti numele si prenumele:');
    readln(p^.fio);
    write('Introduceti varsta:');
    readln(p^.voz);
    p^.next := nil;
    last^.next := p;
    last := p;
  end;
  p := first;
  while p <> nil do
  begin
    writeln(p^.fio:15, p^.voz:10);
    p := p^.next;
  end;
  readln;

  write('Nr elementelor in lista:');readln(n);
  new(first1);
  write('Introduceti numele si prenumele:');
```

```pascal
readln(first1^.fio);
write('Introduceti varsta:');
readln(first1^.voz);
first1^.next := nil;
last1 := first1;
for i := 2 to n do
begin
  new(p1);
  write('Introduceti numele si prenumele:');
  readln(p1^.fio);
  write('Introduceti varsta:');
  readln(p1^.voz);
  p1^.next := nil;
  last1^.next := p1;
  last1 := p1;
end;
p1 := first1;
while p1 <> nil do
begin
  writeln(p1^.fio:15, p1^.voz:10);
  p1 := p1^.next;
end;
writeln('Listei 1 se vor atasa elementele listei 2 - 1');
writeln('Listei 2 se vor atasa elementele listei 1 - 2');
repeat
  write('Introdu 1 sau 2: ');readln(i);
until i in [1, 2];
case i of
  1:
    begin
      last^.Next := First1;
      last := last1;
      p1 := first;
      while p1 <> nil do
      begin
        writeln(p1^.fio:15, p1^.voz:10);
        p1 := p1^.next;
      end;
    end;
  2:
    begin
      last1^.Next := First;
      last1 := last;
      p1 := first1;
      while p1 <> nil do
      begin
        writeln(p1^.fio:15, p1^.voz:10);
```

```pascal
      p1 := p1^.next;
    end;
   end;
  end;
  readln;
end.




program ex4d;

type
 AdresaCandidat = ^Candidat;
 Candidat = record
   NumePrenume: string;
   NotaMedie: real;
   Urm: AdresaCandidat;
 end;

var
 p, c, u, p1: AdresaCandidat;
 n: integer;

procedure creare;
var
 i: integer;
begin
 write('n=');readln(n);
 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
  c := p;
  while c <> nil do
  begin
    writeln(c^.NumePrenume);
    writeln(c^.NotaMedie);
    c := c^.Urm;
  end;
end;

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

begin
creare; afisare; select;
end.
```