Tema pentru acasa la “Prelucrarea listelor unidimensionale”

Nume, prenume: Mirela Richicinschi

Exercitiul 3/ 46

**program** PrelucrareLista;

**type** AdresaCandidat=^Candidat;

Candidat=**record**

Numeprenume :string;

notamedia :real;

Urm :AdresaCandidat;

**end**;

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

**procedure** creare(**var** p:AdresaCandidat);

**begin** write('introdu elevul (Cheia de sfarsit e cuvantul final) '); 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**;{creare}

**procedure** exclude(**var** p:AdresaCandidat;**var** ne:integer);

**begin** ne:=0; {ne- numarul de elemente} 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**;{exclude}

**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**;{afisare1}

**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**;{include}

**procedure** cei\_cu\_9(**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**;{cei\_cu\_9}

**procedure** afisare\_cei\_cu\_media\_mai\_mare\_7(**var** p:AdresaCandidat;**var** ne:integer);

**begin** r:=p;

**while** r<>nil **do**

**begin if** r^.notamedia>=7.5

**then** writeln(r^.numeprenume:20,r^.notamedia:7:2);

r:=r^.urm;

**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**;{afisare}

**begin**

p:=nil; creare(p); writeln('Lista initiala este'); afisare(p);

writeln('Lista fara primul si ultimul'); afisare1(p,n);

include(p); writeln('Lista cu cel inclus la inceputul listei'); afisare(p);

cei\_cu\_9(p,u); writeln('Lista celor cu 9'); afisare(u);

writeln('Lista celor cu media mai mare de 7,5'); afisare\_cei\_cu\_media\_mai\_mare\_7(p,n);

exclude(p,n); writeln('Lista dupa excludere este'); afisare(p);

**end**.

Exercitiul 4/ 46

a)

**program** partea(A);

**type** AdresaCandidat=^Candidat;

Candidat=**record**

Numeprenume :string;

notamedia :real;

Urm :AdresaCandidat;

**end**;

**var** i,n : integer; nume:string; medie : real; p,r,v,u : AdresaCandidat;

**procedure** creare(**var** p:AdresaCandidat);

**begin** write('introdu elevul (Cheia de sfarsit e cuvantul final) '); readln(nume);

**while** nume <>'final' **do**

**begin** write('introdu media elevului ',nume,' '); readln(medie);

**new**(R); r^.numeprenume:=nume; r^.notamedia:=medie; 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**;{creare}

**procedure** reordonare;

**begin**

r:=p;

**while** r<>nil **do**

**begin if** r^.notamedia<10 **then** writeln(nume, medie)

**else**

**begin if** (medie<9) **then** writeln(nume, medie); **end**

**else**

**begin if** (medie<8) **then** writeln(nume, medie)**end**

**else**

**begin if** (medie<7) **then** writeln(nume, medie)**end**

**else**

**begin if** (medie<6) **then** writeln(nume, medie)**end**

**else**

**begin if** (medie<5) **then** writeln(nume, medie)**end**

**else**

**begin if** (medie<4) **then** writeln(nume, medie)**end**

**else**

**begin if** (medie<3) **then** writeln(nume, medie)**end**

**else**

**begin if** (medie<2) **then** writeln(nume, medie)**end**

**else**

**begin if** (medie<1) **then** writeln(nume, medie)**end**;

r:=r^.Urm;

**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**;{afisare}

**begin**

p:=nil; creare(p); writeln('Lista initiala este'); afisare(p); reordonare; afisare(p)

**end**.

b)

**program** partea(B);

**type** AdresaCandidat=^Candidat;

Candidat=**record**

Numeprenume :string;

varsta :real;

Urm :AdresaCandidat;

**end**;

**var** nume:string; varsta : integer ; p,r,v,u,c: AdresaCandidat;

**procedure** creare1(**var** p:AdresaCandidat);

**begin** write('introdu elevul (Cheia de sfarsit e cuvantul final) '); readln(nume);

**while** nume <>'final' **do**

**begin** write('introdu media elevului ',nume,' '); readln(varsta);

**new**(R); r^.numeprenume:=nume; r^.varsta:=varsta; 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**;{creare}

**procedure** afisare1(u:AdresaCandidat);

**begin** R:=u;

**while** R<>nil **do**

**begin** writeln(r^.numeprenume:20,r^.varsta:7); r:=r^.urm; **end**;

**end**;{afisare}

**procedure** creare2(**var** p:AdresaCandidat);

**begin** write('introdu elevul (Cheia de sfarsit e cuvantul final) '); readln(nume);

**while** nume <>'final' **do**

**begin** write('introdu varsta elevului ',nume,' '); readln(varsta);

**new**(R); r^.numeprenume:=nume; r^.varsta:=varsta; r^.urm:=nil;

**if** c=nil **then** c:=R **else** v^.urm:=r;

v:=r;

write('Cheia de sfarsit e cuvantul final '); readln(nume);

**end**;

**end**;{creare}

**procedure** afisare2(u:AdresaCandidat);

**begin** R:=u;

**while** R<>nil **do**

**begin** writeln(r^.numeprenume:20,r^.varsta:7); r:=r^.urm; **end**;

**end**;{afisare}

**procedure** concatenare;

**begin**

**while** R<>nil **do**

**begin**

**if** r<>nil **then** writeln(r^.numeprenume:20,r^.varsta:7:2) **else** r:=c; writeln(r^.numeprenume:20,r^.varsta:7:2);

r:=r^.urm;

**end**;

**end**;

**begin**

p:=nil; writeln('Lista intaia este') ;creare1(p);writeln('Lista a doua este');creare2(p);

writeln('Lista impreuna');

concatenare;

**end**.

c)

**program** partea(D);

**type** AdresaCandidat=^Candidat;

Candidat=**record**

Numeprenume :string;

varsta :real;

Urm :AdresaCandidat;

**end**;

**var** nume:string; ne, varsta : integer ; p,r,v,u,c: AdresaCandidat;

**procedure** creare(**var** p:AdresaCandidat);

**begin** write('introdu elevul (Cheia de sfarsit e cuvantul final) '); readln(nume);

**while** nume <>'final' **do**

**begin** write('introdu media elevului ',nume,' '); readln(varsta);

**new**(R); r^.numeprenume:=nume; r^.varsta:=varsta; 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** 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^.varsta:7);

r:=r^.urm;

**end**;

**end**;

**procedure** peste\_18\_ani;

**begin** ne:=0; {ne- numarul de elemente} r:=p; v:=r;

**while** r<>nil **do**

**begin if** r^.varsta<18

**then if** P=r **then begin** P:=r^.urm; v:=p;r:=v; **end**

**else begin** v^.urm:=r^.urm;r:=v^.urm; **end**

**else begin** ne:=ne+1; v:=r; r:=r^.urm; **end**;

**end**;

**end**;

**procedure** sub\_18\_ani;

**begin** ne:=0; {ne- numarul de elemente} r:=p; v:=r;

**while** r<>nil **do**

**begin if** r^.varsta>18

**then if** P=r **then begin** P:=r^.urm; v:=p;r:=v; **end**

**else begin** v^.urm:=r^.urm;r:=v^.urm; **end**

**else begin** ne:=ne+1; v:=r; r:=r^.urm; **end**;

**end**;

**end**;

**procedure** afisare2(u:AdresaCandidat);

**begin** R:=u;

**while** R<>nil **do**

**begin** writeln(r^.numeprenume:20,r^.varsta:7); r:=r^.urm; **end**;

**end**;{afisare}

**begin**

p:=nil; creare(p); writeln('Lista initiala este'); afisare2(p);

peste\_18\_ani; writeln('Lista celora peste 18 ani'); afisare2(p);

sub\_18\_ani; writeln('Lista minorilor'); afisare2(p);

**end**.

d)

**program** partea(D);

**type** AdresaCandidat=^Candidat;

Candidat=**record**

Numeprenume :string;

varsta :real;

Urm :AdresaCandidat;

**end**;

**var** nume:string; ne, varsta : integer ; p,r,v,u,c: AdresaCandidat;

**procedure** creare(**var** p:AdresaCandidat);

**begin** write('introdu elevul (Cheia de sfarsit e cuvantul final) '); readln(nume);

**while** nume <>'final' **do**

**begin** write('introdu media elevului ',nume,' '); readln(varsta);

**new**(R); r^.numeprenume:=nume; r^.varsta:=varsta; 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** 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^.varsta:7);

r:=r^.urm;

**end**;

**end**;

**procedure** cei\_mai\_longevivi\_oameni;

**begin** ne:=0; {ne- numarul de elemente} r:=p; v:=r;

**while** r<>nil **do**

**begin if** r^.varsta<100

**then if** P=r **then begin** P:=r^.urm; v:=p;r:=v; **end**

**else begin** v^.urm:=r^.urm;r:=v^.urm; **end**

**else begin** ne:=ne+1; v:=r; r:=r^.urm; **end**;

**end**;

**end**;

**procedure** afisare2(u:AdresaCandidat);

**begin** R:=u;

**while** R<>nil **do**

**begin** writeln(r^.numeprenume:20,r^.varsta:7); r:=r^.urm; **end**;

**end**;{afisare}

**begin**

p:=nil; creare(p); writeln('Lista initiala este'); afisare2(p);

cei\_mai\_longevivi\_oameni; writeln('Lista celor mai longevivi oameni de pe Pamant'); afisare2(p);