**Program1;**

```
var f,g:text;
    v:array[1..50] of integer;
    n,x,i,nr,j,aux:integer;
begin
assign(f,'intrare.txt');
assign(g,'iesire.txt');
reset(f);
read(f,x);
n:=1;
v[n]:=x;
while not eof(f) do
     begin
     read(f,x);
     nr:=0;
     for i:=1 to n do
        if x=v[i] then inc(nr);
     if nr=0 then  begin
                   inc(n);
                   v[n]:=x;
                   end;
     end;
close(f);
for i:=1 to n-1 do
 for j:=i+1 to n do
  if v[i]>v[j] then begin
                    aux:=v[i];
                    v[i]:=v[j];
                    v[j]:=aux;
                    end;
rewrite(g);
writeln(g,n);
for i:=1 to n do write( g,v[i],' ');
close(g);
writeln;
end.
```

**Program2;**

```
type matrice=array[1..50,1..50] of
integer;
var a:matrice;
    m,n,l,k,i:integer;
procedure citire;
var i,j:integer;
begin
write('m=');readln(m);
write('n=');readln(n);
for i:=1 to m do
 for j:=1 to n do
    begin
    write('a[',i,',',j,']=');
    readln(a[i,j]);
    end;
end;
procedure afisare;
var i,j:integer;
begin
for i:=1 to m do
 begin
 for j:=1 to n do
  write(a[i,j],' ');
 writeln;
 end;
end;
procedure elimk(p,k:integer);
var i:integer;
begin
for i:=k to n-1 do
  a[p,i]:=a[p,i+1];
end;
procedure eliml(p,k:integer);
var i:integer;
begin
for i:=l to m-1 do
   a[i,p]:=a[i+1,p];
end;
begin
citire;
write('dati linia:');readln(l);
write('dati coloana:');readln(k);
afisare;
for i:=1 to m do
  elimk(i,k);
dec(n);
for i:=1 to n do
  eliml(i,l);
dec(m);
writeln;
afisare;
readln;
end.
```

**Program3;**

```
var f:text;
    s:string;
    k:integer;
procedure cuvinte(s:string);
var i:integer;
    cuv:string;
begin
i:=1;
while i<=length(s) do
  begin
  while (i<=length(s)) and (s[i]=' ')
do inc(i);
  cuv:='';
  while (i<=length(s)) and (s[i]<>' ')
do
      begin
      cuv:=cuv+s[i];
      inc(i);
      end;
  if length(cuv)=k then write(cuv,' ');
  end;
end;
begin
assign(f,'fraza.txt');
reset(f);
write('k=');readln(k);
while not eof(f) do
  begin
  readln(f,s);
  cuvinte(s);
  end;
readln;
end.
```

**Program4;**

```
var a:array[1..50,1..50] of integer;
    v:array[1..50] of integer;
    n,m,i,j,p,aux,k:integer;
    f,g:text;
begin
assign(f,'matricea.txt');
assign(g,'nouamat.txt');
reset(f);
read(f,n);
read(f,m);
for i:=1 to n do
for j:=1 to m do
  read(f,a[i,j]);
close(f);
p:=0;
for i:=1 to n do
 for j:=1 to m do
    begin
    inc(p);
    v[p]:=a[i,j];
    end;
for i:=1 to p-1 do
 for j:=i+1 to p do
    if v[i]>v[j] then begin
                      aux:=v[i];
                      v[i]:=v[j];
                      v[j]:=aux;
                      end;
k:=1;
for i:=1 to n do
 for j:=1 to m do
       begin
     a[i,j]:=v[k];
       inc(k);
       end;
rewrite(g);
for i:=1 to n do begin
for j:=1 to m do
  write(g,a[i,j],' ');
  writeln(g);
            end;
close(g);
end.
```

**Program5;**

```
var a,b,i,j,nr:integer;
   f:text;
function sumacif(x:integer):integer;
var c,s:integer;
begin
s:=0;
repeat
c:=x mod 10;
s:=s+c;
x:=x div 10;
until x=0;
sumacif:=s;
end;
begin
write('a=');readln(a);
write('b=');readln(b);
assign(f,'deosebit.txt');
rewrite(f);
for i:= a to b do
for j:=1 to i do
     if i=j+sumacif(j) then  begin
                             inc(nr);
                             write(f,i,' ');
                             end;
if nr=0 then write(f,'nu exista nici
un numar deosebit in
intervalul[',a,',',b,']');
close(f);
end.
```

**Program6;**

```
var  a:array[1..50] of char;
     st:array[1..50] of integer;
     n,m,k,i:integer;
procedure tipar(k:integer);
var i:integer;
begin
for i:=1 to k do write(a[st[i]]);
writeln;
end;
function valid(k:integer):boolean;
var i:integer;
begin
valid:=true;
for i:=1 to k do
if (a[st[k-1]]>=a[st[k]]) and (k>1)
then
                        begin
                        valid:=false;
                        exit;
                        end;
end;
procedure back;
begin
k:=1;
st[1]:=0;
repeat
while st[k]<n do
  begin
  inc(st[k]);
  if valid(k) then
    if k=m then tipar(k)
  else begin
       inc(k);
       st[k]:=0;
       end;
  end;
  dec(k);
until k=0;
end;
begin
write('n=');readln(n);
write('m=');readln(m);
for i:=1 to n do
   begin
   write('dati litera ',i,':');
   readln(a[i]);
   end;
back;
readln;
end.
```

**Program7;**

```
var  a:array[1..50] of string;
     st:array[1..50] of integer;
     n,p,k,nr,i:integer;
procedure tipar(k:integer;var
nr:integer);
var i:integer;
begin
inc(nr);
for i:=1 to k do write(a[st[i]],' ');
writeln;
end;
function valid(k:integer):boolean;
var i:integer;
begin
valid:=true;
if (st[k]<=st[k-1]) and (k>1) then
begin
                        valid:=false;
                        exit;
                        end;
end;
procedure back;
begin
k:=1;
st[1]:=0;
repeat
while st[k]<n do
  begin
  inc(st[k]);
  if valid(k) then
    if k=p then tipar(k,nr)
  else begin
       inc(k);
       st[k]:=0;
       end;
  end;
  dec(k);
until k=0;
end;
begin
write('n=');readln(n);
write('p=');readln(p);
for i:=1 to n do
   begin
   write('dati numele prajiturii
',i,':');
   readln(a[i]);
   end;
back;
writeln('numarul de solutii
este:',nr);
readln;
end.
```

**Program8;**

```
var  a:array[1..50] of string;
     st:array[1..50] of integer;
     s,f,k,i:integer;

procedure tipar(k:integer);
var i:integer;
begin
for i:=1 to k do write(a[st[i]],' ');
writeln;
end;
function valid(k:integer):boolean;
var i:integer;
begin
valid:=true;
if (st[k-1]>=st[k]) and (k>1) then
                  begin
                  valid:=false;
                  exit;
                  end;
end;
procedure back;
begin
k:=1;
st[1]:=0;
repeat
while st[k]<s do
  begin
  inc(st[k]);
  if valid(k) then
    if k=f then tipar(k)
  else begin
       inc(k);
       st[k]:=0;
       end;
  end;
  dec(k);
until k=0;
end;
begin
write('s=');readln(s);write('f=');rea
dln(f);
for i:=1 to s do
   begin
   write('dati numele florii ',i,':');
   readln(a[i]);
   end;
back;
readln;
end.
```

**Program9;**

```
var st:array[1..10] of integer;
    a:array[1..3] of char;
    n,k:integer;
function valid(k:integer):boolean;
begin
valid:=true;
if (st[k]=st[K-1]) and (k>1) then
         begin
         valid:=false;
         exit;
         end;
end;
procedure tipar(k:integer);
var i:integer;
begin
for i:=1 to k do
  write(a[st[i]]);
writeln;
end;
procedure back;
begin
k:=1;
st[1]:=0;
repeat
while st[k]<3 do
   begin
   inc(st[k]);
   if valid(k) then
      if k=n then tipar(k)
      else begin
           inc(k);
           st[k]:=0;
           end;
   end;
dec(k);
until k=0;
end;
begin
a[1]:='A';
a[2]:='B';
a[3]:='C';
write('n=');readln(n);
```

```
back;
readln;
end.
```

**Program12;**

```
var a:array[1..50] of integer;
    st:array[0..50] of integer;
    n,i:integer;
    f:text;
procedure tipar(k:integer);
var i:integer;
begin
write(f,'{',a[st[1]]);
for i:=2 to k do write(f,',',a[st[i]]);
writeln(f,'}');
end;
procedure  back(k:integer);
var j:integer;
begin
for j:=st[k-1]+1 to n do
    begin
    st[k]:=j;
    tipar(k);
    back(k+1);
    end;
end;
begin
assign(f,'subm.txt');
rewrite(f);
write('n=');readln(n);
for i:=1 to n do
  begin
  write('a[',i,']=');
  readln(a[i]);
  end;
back(1);
close(f);
end.
```

**Program13;**

```
type vect=record
         fact,put:integer;
         end;
var  a:array[1..50] of vect;
     n,i,m:integer;
     f:text;
function prim(x:integer):boolean;
var i,j:integer;
begin
prim:=true;
if (x=1) or (x=0) then prim:=false
   else for i:=2 to x div 2 do
        if x mod i=0 then
           begin
           prim:=false;
           exit;
           end;
end;
```

**Program14;**

```
var f:text;
    a:array[1..50,1..50] of integer;
    n,m,max,i,j,k:integer;
begin
assign(f,'matrice.txt');
reset(f);
read(f,n);
read(f,m);
for i:=1 to n do
  for j:=1 to m do
        read(f,a[i,j]);
close(f);
for i:=1 to n do begin
 for j:=1 to m do
        write(a[i,j],' ');
        writeln;
              end;
max:=0;
for i:=1 to n do
  for j:=1 to m do
      if max<= abs(a[i,j]) then  begin

max:=abs(a[i,j]);
                          k:=i;
                          end;
writeln('linia pe care se afla cel mai
mare element in valoare absoluta
este ',k);
end.
```

**Program15;**

```
var a:array[1..50,1..50] of integer;
    m,n,i,j:integer;
    f:text;
procedure sortare(i:integer);
var j,k,aux:integer;
begin
for j:=1 to n-1 do
 for k:=j+1 to n do
  if a[i,j]>a[i,k] then
        begin
        aux:=a[i,j];
        a[i,j]:=a[i,k];
        a[i,k]:=aux;
        end;
end;
{s-a folosit metoda sortarii prin
interschimbare}
begin
assign(f,'input.txt');
reset(f);
read(f,m);read(f,n);
for i:=1 to m do
 for j:=1 to n do
   read(f,a[i,j]);
for i:=1 to m do
  sortare(i);
for i:=1 to m do
  begin
  for j:=1 to n do
    write(a[i,j],' ');
  writeln;
  end;
readln;
close(f);
end.
```

**Program16;**

```
type vector=array[1..50] of integer;
var a,b,c:vector;
    n,m,i,p,j:integer;
    ok:boolean;
procedure citire(var a:vector;var
n:integer);
var i:integer;
begin
write('dati numarul de elemente:');
readln(n);
for i:=1 to n do
  begin
  write('dati elementul ',i,':');
  readln(a[i]);
  end;
end;
procedure afis(a:vector;n:integer);
var i:integer;
begin
for i:=1 to n do
     write(a[i],' ');
end;
begin
citire(a,n);
citire(b,m);
p:=0;
for i:=1 to m do
  begin
  inc(p);
  c[p]:=b[i];
  end;
for i:=1 to n do
  begin
  ok:=true;
  for j:=1 to m do
     if a[i]=b[j] then ok:=false;
  if ok then begin
             inc(p);
             c[p]:=a[i];
             end;
  end;
afis(c,p);
readln;
end.
```

**Program17;**

```
type vector=array[1..50] of integer;
var a,b,c:vector;
    n,m,i,p,j:integer;
    ok:boolean;
procedure citire(var a:vector;var
n:integer);
var i:integer;
begin
write('dati numarul de elemente:');
readln(n);
for i:=1 to n do
  begin
  write('dati elementul ',i,':');
  readln(a[i]);
  end;
end;
procedure afis(a:vector;n:integer);
var i:integer;
begin
for i:=1 to n do
     write(a[i],' ');
end;
begin
citire(a,n);
citire(b,m);
p:=0;
for i:=1 to n do
 begin
 ok:=false;
 for j:=1 to m do
   if a[i]=b[j] then ok:=true;
 if ok then
   begin
   inc(p);
   c[p]:=a[i];
   end;
 end;
afis(c,p);
readln;
end.
```

**Program18;**

```
type vector=array[1..50] of integer;
var a,b,c:vector;
    n,m,i,p,j:integer;
    ok:boolean;
procedure citire(var a:vector;var
n:integer);
var i:integer;
begin
write('dati numarul de elemente:');
readln(n);
for i:=1 to n do
  begin
  write('dati elementul ',i,':');
  readln(a[i]);
  end;
end;
procedure afis(a:vector;n:integer);
var i:integer;
begin
for i:=1 to n do
     write(a[i],' ');
end;
begin
citire(a,n);
citire(b,m);
p:=0;
for i:=1 to n do
  begin
  ok:=true;
  for j:=1 to m do
  if a[i]=b[j] then ok:=false;
  if ok then
    begin
    inc(p);
    c[p]:=a[i];
    end;
  end;
afis(c,p);
readln;
end.
```

**Program19;**

```
var a:array[1..50,1..50] of integer;
    n,i,j,nr:integer;
function prim(x:integer):boolean;
var i:integer;
begin
prim:=true;
if (x=1) or (x=0) then prim:=false;
for i:=2 to x div 2 do
   if x mod i =0 then prim:=false;
end;
begin
write('n=');readln(n);
for i:=1 to n do
 for j:=1 to n do
    begin
    write('a[',i,',',j,']=');
    readln(a[i,j]);
    end;
writeln('numerele prime din
matrice sunt:');
nr:=0;
for i:=1 to n do
 for j:=1 to n do
  if prim(a[i,j]) then
             begin
             write(a[i,j],' ');
             inc(nr);
             end;
if nr=0 then writeln(' nu exista
numere prime in matrice ');
readln;
end.
```

**Program20;**

```
type vector=array[1..100] of real;
var a,b,c:vector;
    m,n,i,p:integer;
    ok:boolean;
procedure sortare(n:integer;var
a:vector);
var i,j:integer;
    aux:real;
begin
for i:=1 to n-1 do
 for j:=i+1 to n do
    if a[i]>a[j] then
       begin
       aux:=a[i];
       a[i]:=a[j];
       a[j]:=aux;
       end;
end;
procedure citire(var a:vector;var
n:integer;var ok:boolean);
var i:integer;
begin
write('dati numarul de
elemente:');readln(n);
write('a[1]=');readln(a[1]);
ok:=true;
for i:=2 to n do
  begin
  write('a[',i,']=');
  readln(a[i]);
  if a[i-1]<a[i] then ok:=false;
  end;
end;
procedure
interclasare(a,b:vector;var
c:vector;var p:integer);
var i,q,j:integer;
begin
i:=1;
j:=1;
p:=0;
while (i<=n) and (j<=m) do
  begin
  inc(p);
  if a[i]<a[j] then begin
                    c[p]:=a[i];
                    inc(i);
                    end
               else begin
                    c[p]:=b[j];
                    inc(j);
                    end;
  end;
if i>n then
 for q:=j to m do
    begin
    inc(p);
    c[p]:=b[i];
    end
  else for q:=i to n do
       begin
       inc(p);
       c[p]:=a[i];
       end;
end;
begin
citire(a,n,ok);
if not ok then sortare(n,a);
citire(b,m,ok);
if not ok then sortare(m,b);
interclasare(a,b,c,p);
for i:=1 to p do
  write(c[i]:2:2,' ');
readln;
end.
```

**Program21;**

```
type vector=array[1..100] of
integer;
var f:text;
    a:vector;
    n,i:integer;
procedure citire;
var i:integer;
begin
write('n=');readln(n);
for i:=1 to n do
  begin
  write('a[',i,']=');
  readln(a[i]);
  end;
end;
function maxim(a:vector):integer;
var i,max:integer;
begin
max:=a[1];
for i:=2 to n do
  if a[i]>max then max:=a[i];
maxim:=max;
end;
begin
citire;
assign(f,'maxim.txt');
rewrite(f);
writeln(f,maxim(a));
for i:=1 to n do
 if a[i]=maxim(a) then write(f,i,' ');
close(f);
end.
```

**Program23;**

```
var st:array[1..10] of integer;
    n,k:integer;
function valid(k:integer):boolean;
var i:integer;
begin
valid:=true;
for i:=1 to k-1 do
  if (k-i=abs(st[k]-st[i])) or
(st[k]=st[i]) then
                begin
                valid:=false;
                exit;
                end;
end;
procedure tipar(k:integer);
var i,j:integer;
begin
for i:=1 to k do
 begin
 for j:=1 to k do
 if st[i]=j then write('D',' ')
    else write('*',' ');
 writeln;
 end;
writeln;
end;
procedure back;
begin
k:=1;
st[k]:=0;
repeat
 while st[k]<n do
   begin
   inc(st[k]);
   if valid(k) then
     if k=n then tipar(k)
        else begin
             inc(k);
             st[k]:=0;
             end;
   end;
dec(k);
until k=0;
end;
begin
write('n=');readln(n);
back;
readln;
end.
```

**Program24;**

```
var t:string[20];
    st:array[1..20] of integer;
    n:integer;
procedure afis(k:integer);
var i:integer;
begin
for i:=1 to k do
  write(t[st[i]]);
writeln;
end;
function valid(k:integer):boolean;
var i:integer;
begin
valid:=true;
for i:=1 to k-1 do
  if st[i]=st[k] then begin
                  valid:=false;
                  exit;
                  end;
end;
procedure back;
var k:integer;
begin
k:=1;
st[1]:=0;
repeat
while st[k]<n do
  begin
  inc(st[k]);
  if valid(k) then
    if k=n then afis(k)
    else begin
         inc(k);
         st[k]:=0;
         end;
   end;
dec(k);
until k=0;
end;
begin
write('dati cuvantul:');readln(t);
n:=length(t);
back;
readln;
end.
```

**Program25;**

```
var m:array[1..50] of integer;
    st:array[1..50] of integer;
    n,i,p:integer;
    f:text;
procedure tipar(k:integer);
var i:integer;
begin
for i:=1 to k do
   write(f,m[st[i]],' ');
writeln(f);
end;
procedure back(k:integer);
var j:integer;
begin
for j:=1 to p do
    begin
    st[k]:=j;
    if k=n then tipar(k)
          else back(k+1);
    end;
end;
begin
assign(f,'cart.txt');
rewrite(f);
write('n=');readln(n);
write('p=');readln(p);
for i:=1 to p do
   begin
   write('m[',i,']=');
   readln(m[i]);
   end;
back(1);
close(f);
end.
```

**Program26;**

```
var  st:array[1..50] of integer;
     n,k,i:integer;
procedure tipar(k:integer);
var i:integer;
begin
for i:=1 to k do write('in cutia ',i,'
bila ', st[i],'; ');
writeln;
end;
function valid(k:integer):boolean;
var i:integer;
begin
valid:=true;
for i:=1 to k-1 do
  if st[k]=st[i] then begin
                  valid:=false;
                  exit;
                  end;
end;
procedure back;
begin
k:=1;
st[1]:=0;
repeat
while st[k]<n do
  begin
  inc(st[k]);
  if valid(k) then
    if k=n then tipar(k)
   else begin
        inc(k);
        st[k]:=0;
        end;
  end;
  dec(k);
until k=0;
end;
begin
write('n=');readln(n);
back;
readln;
end.
```

**Program27;**

```
var st:array[1..10] of integer;
    n,k,p:integer;
    f:text;
procedure tipar(k:integer);
var i:integer;
begin
for i:=1 to k do
  write(f,st[i]);
writeln(f);
end;
function valid(k:integer):boolean;
var i:integer;
begin
valid:=true;
for i:=1 to k do
  if st[i]<>st[k-i+1] then
     begin
     valid:=false;
     exit;
     end;
end;
procedure back;
begin
k:=1;
st[k]:=0;
repeat
 while st[k]<p-1 do
    begin
    inc(st[k]);
     if k=n then
       begin
       if valid(k) then tipar(k);
       end
    else begin
        inc(k);
        st[k]:=0;
        end;
   end;
dec(k);
until k=0;
end;
begin
assign(f,'out.txt');
rewrite(f);
write('dati numarul de
cifre:');readln(n);
write('dati cifra
maxima:');readln(p);
back;
close(f);
end.
```

**Program28;**

```
var n:integer;
function suma(n:integer):longint;
begin
if n=0 then suma:=2
 else suma:=suma(n-1)+2+3*n;
end;
begin
write('n=');readln(n);
writeln('suma=',suma(n));
readln;
end.
```

**Program29;**

```
var x:integer;
function sumacif(x:integer):byte;
begin
if x=0 then sumacif:=0
  else sumacif:=sumacif(x div 10)+x
mod 10;
end;
begin
write('x=');readln(x);
write('suma cifrelor
este:',sumacif(x));
readln;
end.
```

**Program30;**

```
type cifre=2..9;
var n:integer;
    b:cifre;
function nrnou(n:integer):longint;
begin
if n=0 then nrnou:=0
  else nrnou:=n mod b +10*nrnou(n
div b);
end;
begin
write('n=');readln(n);
write('b=');readln(b);
write('numarul in baza' ,'b',','
este:',nrnou(n));
readln;
end.
```

**Program31;**

```
var a:array[1..50] of string;
    n,p,i:integer;
function
invers(s:string;p:integer):string;
begin
if p=0 then invers:=''
  else invers:= s[p]+invers(s,p-1);
end;
begin
write('n=');readln(n);
for i:=1 to n do
   begin
   write('a[',i,']=');
   readln(a[i]);
   end;
for i:=1 to n do
   begin
   write(a[i],' ');
   p:=length(a[i]);
   write(invers(a[i],p),' ');
   end;
readln;
end.
```

**Program32;**

```
procedure inv;
var c:char;
begin
write('c=');readln(c);
if c<>'.'then
  begin
  inv;
  write(c,' ');
  end;
end;
begin
inv;
readln;
end.
```