



!!! ATENȚIE !!!



Aceste rezolvări NU au fost aprobate de MINISTERUL EDUCAȚIEI sau altă comisie recunoscută de Ministerul Educației. În consecință nimeni nu își asumă răspunderea pentru eventualele greșeli și / sau pierderi survenite în urma folosirii lor!

Folosește rezolvările pe riscul tău !!!

Dacă găsești greșeli sau ai nelămuriri în legătură cu o anumită rezolvare trimite-mi un e-mail pe adresa raducu@trei.ro și voi încerca să lămuresc / corectez problema.

-
3. `f.x:=f1.x*f2.y+f1.y*f2.x;`
`f.y:=f1.y*f2.y;`
5. `var n,i,j:integer;`
`a:array[1..10,1..10]of integer;`
`begin`
`write(' n= '); read(n);`
`for i:=1 to n do`
`for j:=1 to n do`
`begin`
`a[i,j]:=n-j+1;`
`if (i=j)`
`then a[i,j]:=0;`
`end;`
`for i:=1 to n do`
`begin`
`for j:=1 to n do`
`write(a[i,j]:4);`
`writeln;`
`end;`
`end.`
-

Varianta 4:

1. b

2. a

3.

| |
|---|
| 2 |
| 1 |

4. `if (s[i]>='a') and (s[i]<='z')`
`then s[i]:='W';`
5. `var n,i,j:integer;`
`a:array[1..10,1..10]of integer;`
`begin`
`write(' n= '); read(n);`
`for i:=1 to n do`
`for j:=1 to n do`
`begin`
`a[i,j]:=n-i+1;`
`if (i+j=n+1)`
`then a[i,j]:=0;`
`end;`
`for i:=1 to n do`
`begin`
`for j:=1 to n do`
`write(a[i,j]:4);`
`writeln;`
`end;`
`end.`

Varianta 5:

1. b

2. d

3. 14 frunze

4. `if s[i]=c
 then s[i]:=d;`

5. `var n,m,i,j:integer;
 a:array[1..10,1..10]of integer;
begin
 write(' n= '); read(n);
 write(' m= '); read(m);
 for i:=1 to n do
 for j:=1 to m do
 begin
 if (i<j)
 then a[i,j]:=j
 else a[i,j]:=i;
 end;
 for i:=1 to n do
 begin
 for j:=1 to m do
 write(a[i,j]:4);
 writeln;
 end;
end.`

Varianta 6:

1. a

2. c

3. 14 muchii

4. 16

5. `var i:integer;
 s:string;
begin
 write(' textul: '); readln(s);
 for i:=2 to length(s) do
 if (s[i-1]=' ') and (s[i]<>' ')
 then s[i]:=uppercase(s[i]);
 if s[1]<>' ' then s[1]:=uppercase(s[1]);
 write(s);
end.`

Varianta 7:

1. a

2. d

3. `write(x.ume, ' ');
write(x.clasa, ' ');
write(x.media);`

4. 2 muchii

```

5. var i:integer;
    c:char;
    s:string;
begin
  write(' textul: '); readln(s);
  for i:=1 to length(s) do
    if (s[i]<>'a') and (s[i]<>'e') and (s[i]<>'i') and (s[i]<>'o') and (s[i]<>'u')
      then c:=s[i];
  write(' ultima consoana: ',c);
end.

```

Varianta 8:

1. c 2. a 3. abefgh 6 4. 3

```

5. var n, p, i, j, k:integer;
    a:array[1..10,1..10] of integer;
begin
  write(' n= '); read(n);
  write(' p= '); read(p);
  k:=-1;
  for i:=1 to n do
    for j:=1 to p do
      begin
        k:=k+2;
        a[i,j]:=k*k;
      end;
  for i:=1 to n do
    begin
      for j:=1 to p do
        write(a[i,j]:4);
      writeln;
    end;
end.

```

Varianta 9:

1. c 2. a 3. abcdea 4. 5

```

5. var n,i,j,s:integer;
    a:array[1..10,1..10] of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      begin
        write(' A[' ,i, ', ',j, ']= ');
        read(a[i,j]);
      end;
    end;
end.

```

```
        end;
    s:=0;
    for i:=1 to n do
        write(a[1,i], ' ');
    for i:=2 to n-1 do
        write(a[i,n], ' ');
    for i:=n downto 1 do
        write(a[n,i], ' ');
    for i:=n-1 downto 2 do
        write(a[i,1], ' ');
    end.
```

Varianta 10:

1. a 2. c 3. 3 4. 3081

```
5. var n,p,i,j,k:integer;
    a:array[1..10,1..10] of integer;
begin
    write(' n= '); read(n);
    write(' p= '); read(p);
    k:=-2;
    for i:=1 to n do
        for j:=1 to p do
            begin
                k:=k+2;
                a[i,j]:=k*k;
            end;
    for i:=1 to n do
        begin
            for j:=1 to p do
                write(a[i,j]:4);
            writeln;
        end;
    end.
```

Varianta 11:

1. a 2. d 3. 11 brcdbr 4. 64

```
5. var n,m,i,j,min:integer;
    a:array[1..10,1..10] of integer;
begin
    write(' m= '); read(m);
    write(' n= '); read(n);
    for i:=1 to m do
        for j:=1 to n do
            begin
                write(' A[' ,i ,', ',j ,']= ');
```

```
5. var n,i,j:integer;
   a:array[1..10,1..10]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      if i+j=n+1
        then a[i,j]:=0
        else if i+j<n+1
          then a[i,j]:=1
          else a[i,j]:=2;
  for i:=1 to n do
    begin
      for j:=1 to n do
        write(a[i,j]:4);
      writeln;
    end;
end.
```

Varianta 14:

1. b 2. c 3. 9 2 4. 2 3 4 6

```
5. var n,i,j:integer;
   a:array[1..4,1..4]of integer;
begin
  write(' n= '); read(n);
  for j:=1 to 4 do
    begin
      for i:=1 to 4 do
        a[i,j]:=n mod 10;
        n:=n div 10;
      end;
  for i:=1 to 4 do
    begin
      for j:=1 to 4 do
        write(a[i,j]:2);
      writeln;
    end;
end.
```

Varianta 15:

1. c 2. d 3. bemeut

4. Gradul minim este: 2
Nodurile cu gradul minim sunt: 5 7 8

```
5. var n,i,j:longint;
   a:array[1..5,1..5]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to 5 do
    begin
      for j:=1 to 5 do
        a[i,j]:=n mod 10;
      n:=n div 10;
    end;
  for i:=1 to 5 do
    begin
      for j:=1 to 5 do
        write(a[i,j]:2);
      writeln;
    end;
end.
```

Varianta 16:

1. b

2. a

3. Numarul minim este 2, iar în vârful stivei va ramane elementul 7

4. clasa a-XII-a A
clasaaa

```
5. var n,i,j:longint;
   a:array[1..50,1..50]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      if (i=j) or (i+j=n+1)
        then a[i,j]:=4
        else a[i,j]:=3;
  for i:=1 to n do
    begin
      for j:=1 to n do
        write(a[i,j]:3);
      writeln;
    end;
end.
```

Varianta 17:

1. a

2. b

3. Numarul minim este 3 iar în stiva mai ramâne **un** element.

4. 11
b*t

5. var n,i,j:longint;
a:array[1..20,1..20]of integer;
begin
write(' n= '); read(n);
for i:=1 to n do
for j:=1 to n do
a[i,j]:=i+j-1;
for i:=1 to n do
begin
for j:=1 to n do
write(a[i,j]:3);
writeln;
end;
end.

Varianta 18:

1. c 2. a 3. În vârful stivei este 2 iar in stiva sunt 3 elemente.

4. a:='informatica';
for i:=1 to length(a) do
if (s[i]='a') or (s[i]='e') or (s[i]='i') or (s[i]='o') or (s[i]='u')
then
write('*')
else
write(a[i]);

5. var n,i,j:longint;
a:array[1..20,1..20]of integer;
begin
write(' n= '); read(n);
for i:=1 to n do
for j:=1 to n do
if i mod 2=1
then a[i,j]:=i
else a[i,j]:=j;
for i:=1 to n do
begin
for j:=1 to n do
write(a[i,j]:3);
writeln;
end;
end.

Varianta 19:

1. a 2. c 3. 2008bac2008 4. 5 și 4

```
5. var n,i,j:longint;
   a:array[1..20,1..20]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      if j mod 2=1
        then a[i,j]:=i+j
        else a[i,j]:=i;
  for i:=1 to n do
    begin
      for j:=1 to n do
        write(a[i,j]:3);
      writeln;
    end;
end.
```

Varianta 20:

1. d 2. a 3. 9 și 7

```
4. a:='Bac 2008 iulie';
   for i:=length(a) downto 1 do
     write(a[i]);

5. var n,i,j:longint;
   a:array[1..20,1..20]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      if (i=1) or (j=1)
        then a[i,j]:=i+j
        else a[i,j]:=a[i,j-1]+a[i-1,j];
  for i:=1 to n do
    begin
      for j:=1 to n do
        write(a[i,j]:4);
      writeln;
    end;
end.
```

Varianta 21:

1. d 2. c 3. ev.data_nasterii.an 4. 4

```
5. var s:string[250];
    i:integer;
begin
  write(' Textul: '); read(s);
  for i:=1 to length(s)-1 do
    if s[i]=s[i+1]
      then writeln(s[i],s[i+1]);
end.
```

Varianta 22:

1. b 2. a 3. 5 4. 4

```
5. var m,n,i,j,k:integer;
    a:array[1..100,1..100]of integer;
begin
  write(' m= '); read(m);
  write(' n= '); read(n);
  k:=m*n;
  for i:=1 to m do
    for j:= 1 to n do
      begin
        a[i,j]:=k;
        k:=k-1;
      end;
  for i:=1 to m do
    begin
      for j:=1 to n do
        write(a[i,j]:3);
      writeln;
    end;
end.
```

Varianta 23:

1. b 2. d 3. lantul maxim are 3 muchii 4. 200

```
5. var m,n,i,j:integer;
    a:array[1..100,1..100]of integer;
begin
  write(' m= '); read(m);
  write(' n= '); read(n);
  for i:=1 to m do
    for j:= 1 to n do
      if (i=1) or(j=1)
        then a[i,j]:=i+j-1
        else a[i,j]:=a[i-1,j]+a[i,j-1];
  write('Elementul solicitat este: ',a[m,n]);
```



```

for j:= 1 to n do
  begin
    write(' A[' ,i, ', ', ',j, ']= ');
    read(a[i,j]);
  end;
for j:=1 to n do
  begin
    p:=a[1,j];
    for i:= 2 to m do
      p:=p*a[i,j];
      if p> max
        then max:=p;
    end;
for j:=1 to n do
  begin
    p:=a[1,j];
    for i:= 2 to m do
      p:=p*a[i,j];
      if p = max
        then write(j, ' ');
    end;
end.

```

Varianta 26:

1. d 2. c 3. roton 4. 4 elem.

```

5. var n,i,j,p,k:integer;
    a:array[1..100,1..100]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:= 1 to n do
      begin
        write(' A[' ,i, ', ', ',j, ']= ');
        read(a[i,j]);
      end;
  for i:=1 to n do
    for j:= 1 to n do
      begin
        p:=1;
        for k:=1 to n do
          if k<>i then p:=p*a[k,j];
          if p=a[i,j]
            then write(p, ' ');
        end;
      end;
end.

```

Varianta 27:

1. a

2. b

4. 6

3. $H.x := F.x * G.y + F.y * G.x;$
 $H.y := F.y * G.y;$

5. `var n,i,j:integer;
 a:array[1..100,1..100]of integer;
 begin
 write(' n= '); read(n);
 for i:=1 to n do
 for j:= 1 to n do
 if (i=1) or (j=1) or (j=n)
 then a[i,j]:=1
 else a[i,j]:=a[i-1,j-1]+a[i-1,j]+a[i-1,j+1];

 for i:=1 to n do
 begin
 for j:= 1 to n do
 write(a[i,j]:4);
 writeln;
 end;
 end.`

Varianta 28:

1. b

2. c

3. 0

4. 3

5. `var s1,s2:string[20];
 i:integer;
 begin
 write(' s1= '); readln(s1);
 s2:=s1;
 for i:=1 to length(s2) do
 if s2[i]='a'
 then delete(s2,i,1);
 if s1<>s2 then writeln(s2);
 s2:=s1;
 for i:=1 to length(s2) do
 if s2[i]='e'
 then delete(s2,i,1);
 if s1<>s2 then writeln(s2);
 s2:=s1;
 for i:=1 to length(s2) do
 if s2[i]='i'
 then delete(s2,i,1);
 if s1<>s2 then writeln(s2);
 s2:=s1;
 for i:=1 to length(s2) do`

```

    if s2[i]='o'
        then delete(s2,i,1);
    if s1<>s2 then writeln(s2);
    s2:=s1;
    for i:=1 to length(s2) do
        if s2[i]='u'
            then delete(s2,i,1);
    if s1<>s2 then writeln(s2);
end.

```

Varianta 29:

1. a 2. d 3. atac 4. 2

```

5. var n,i,j:integer; pp,p:real;
    ok:boolean;
    a:array[1..6,1..6]of integer;
begin
    write(' n= '); read(n);
    for i:=1 to n do
        for j:= 1 to n do
            begin
                write(' A[' ,i, ',' ,j, ']= ');
                read(a[i,j]);
            end;
        pp:=1;
        for j:=1 to n do
            begin
                p:=a[1,j] / a[1,1];
                ok:=true;
                for i:=2 to n do
                    if a[i,j]/a[i,1]<>p
                        then ok:=false;
                if (ok) and (frac(p)=0)
                    then pp:=pp*p;
            end;
        write(pp:5:0, ' ');
    end.

```

Varianta 30:

1. c 2. a 3. 2 3 4 5 4. 8

```

5. var n,i,j:integer;
    a:array[1..20,1..20] of integer;
begin
    write(' n= '); read(n);
    for i:=1 to n do

```



```

for j:=1 to n do
  if (i=1) or (j=1)
    then a[i,j]:=1
    else a[i,j]:=a[i,j-1]+a[i-1,j];
for i:=1 to n do
  begin
    for j:=1 to n do
      write(a[i,j]:4);
    writeln;
  end;
end.

```

Varianta 31:

1. c

2. b

3. type masina=record
 marca:string[20];
 anul_fabricatiei:integer;
 end;

4.

| | |
|------|----|
| varf | 6 |
| | 11 |

| | |
|------|-----|
| varf | 200 |
| | 100 |
| | 6 |
| | 11 |

5. var i,j,s:integer;
 a:array[1..20,1..20] of integer;
 begin
 for i:=1 to 10 do
 for j:=1 to 7 do
 begin
 write(' a[' ,i ,', ',j ,']= ');
 read(a[i,j]);
 end;
 s:=0;
 for i:=1 to 7 do
 s:=s+a[1,i];
 for i:=2 to 9 do
 s:=s+a[i,7];
 for i:=7 downto 1 do
 s:=s+a[10,i];
 for i:=9 downto 2 do
 s:=s+a[i,1];
 write(' s= ',s);
 end.


```

if s[1]=' '
  then cuv:=0
  else cuv:=1;
for i:=2 to length(s) do
  if (s[i-1]=' ') and (s[i]<>' ')
    then cuv:=cuv+1;
writeln(' cuv= ',cuv);
for i:=1 to length(s) do
  if (s[i]<>' ')
    then inc( lit[ord(s[i])-ord('A')] );
for c:='B' to 'Z' do
  if (c <>'E')and(c <>'I')and(c <>'O')and (c <>'U')
    then if (lit[ord(c)-ord('A')]<>0)
      then write(c, ' ');
end.

```

Varianta 34:

1. b

2. c

4. asta

3.

| |
|---|
| 4 |
|---|

| | |
|---|-----|
| 4 | 100 |
|---|-----|

| | | |
|---|-----|-----|
| 4 | 100 | 200 |
|---|-----|-----|

```

5. var n,i,j,k:integer;
    a:array[1..20,1..20]of integer;
begin
  write(' n= '); read(n);
  k:=0;
  for i:=1 to n do
    for j:=1 to n do
      begin
        if k mod 3=0
          then k:=k+2;
        a[i,j]:=k;
        k:=k+2;
      end;
    for i:=1 to n do
      begin
        for j:=1 to n do
          write(a[i,j]:4);
        writeln;
      end;
    end.

```

Varianta 35:

1. d

2. c

3. 6

amat

4. Graful are 5 componente conexe.

Trebuie adaugate 4 muchii ca graful sa devina conex.

```

5. var n,i,j,min:integer;
   a:array[1..100,1..100]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      begin
        write(' A[' ,i, ',' ,j, ']= ');
        read(a[i,j]);
      end;
    for j:=1 to n do
      begin
        min:=a[1,j];
        for i:=1 to n do
          if a[i,j]<min
            then min:=a[i,j];
        write(min, ' ');
      end;
    end.

```

Varianta 36:

1. a

2. b

3. 3

4. 171

```

5. var n,m,i,j,min:integer;
   a:array[1..100,1..100]of integer;
begin
  write(' n= '); read(n);
  write(' m= '); read(m);
  for i:=1 to n do
    for j:=1 to m do
      begin
        write(' A[' ,i, ',' ,j, ']= ');
        read(a[i,j]);
      end;
    for j:=1 to m do
      begin
        min:=a[1,j];
        for i:=1 to n do
          if a[i,j]<min

```

```

        then min:=a[i,j];
        write(min,' ');
    end;
end.

```

Varianta 37:

1. b

2. a

4. $d(1)=3$; $d^+(5)=2$

3.

```

0 1 0 1 1
1 0 1 0 0
0 0 0 1 0
0 0 0 0 1
1 0 0 0 0

```

5.

```

var s:string[255];
    lit:array[0..40]of byte;
    i,cuv:integer;
    c:char;
begin
write(' s= '); readln(s);
if s[1]<>' '
then s[1]:=uppercase(s[1]);
for i:=2 to length(s) do
begin
if (s[i-1]=' ') and (s[i]<>' ')
then s[i]:=uppercase(s[i]);
if (s[i-1]<>' ') and (s[i]=' ')
then s[i-1]:=uppercase(s[i-1]);
end;
if s[length(s)]<>' '
then s[length(s)]:=uppercase(s[length(s)]);
writeln(' s= ',s);
end.

```

Varianta 38:

1. d

2. c

3. 2 muchii

4. 6 cicluri

5.

```

var n,i,j,p,imin:integer;
    a:array[1..30,1..30]of integer;
begin
write(' n= '); read(n);
for i:=1 to n do
for j:=1 to n do
begin
write(' A[' ,i, ', ',j, ']= ');
read(a[i,j]);

```

```
        while i1<j do
            begin
                aux:=s[i1];
                s[i1]:=s[j];
                s[j]:=aux;
                i1:=i1+1; j:=j-1;
            end;
        end;
    write(' s= ',s);
end.
```

Varianta 40:

1. a 2. d 3. 3 componente conexe

4. 111
 122
 123

5.

```
var s,s1:string[255];
    p,i:integer;
begin
    write(' s= '); read(s);
    i:=1;
    while s[i]<>'*' do
        begin
            s1:=s1+s[i];
            i:=i+1;
        end;
    write(s1, ' ');
    repeat
        p:=pos(s1,s);
        if p>0
            then delete(s,p,length(s1));
    until p=0;
    write(' s= ',s);
end.
```

Varianta 41:

1. a 2. a 3. Nodurile 1,3,5,7,9 sunt frunze 4. abc

5.

```
var n,i,j:integer;
    a:array[1..30,1..30]of integer;
begin
    write(' n= '); read(n);
    for i:=1 to n do
        for j:=1 to n do
            a[i,j]:=i+j;
```

```
for i:=1 to n do
  begin
    for j:=1 to n do
      write(a[i,j], ' ');
    writeln;
  end;
end.
```

Varianta 42:

1. a 2. a 3. 3 noduri 4. elementul a[5,5]=5

5. var s:string[40];
 i:integer;
begin
 write(' s= '); read(s);
 for i:=1 to length(s) do
 if (s[i]='a') or (s[i]='e') or (s[i]='i') or (s[i]='o') or (s[i]='u')
 then write(s[i], ' ');
 end.

Varianta 43:

1. a 2. a 4. 11
3. Nodul 4 – rădăcină / 5 noduri frunză (1, 3, 5, 7, 9)

5. var i,j,n:integer;
 a:array[1..32,1..23]of integer;
begin
 write(' n= '); read(n);
 for i:=1 to n do
 for j:=1 to n do
 if i=j
 then a[i,j]:=2
 else if i<j
 then a[i,j]:=1
 else a[i,j]:=3;
 for i:=1 to n do
 begin
 for j:=1 to n do
 write(a[i,j], ' ');
 writeln;
 end;
 end.

Varianta 44:

1. a 2. d 3. 2, 6, 7 4. fo
5.

```
var a:array[1..23,1..23]of integer;
    n,i,j,k:integer;
begin
    write(' n= '); read(n);
    for i:=1 to n do
        begin
            k:=i;
            for j:=n downto 1 do
                if k>1
                    then begin
                            a[i,j]:=k;
                            k:=k-1;
                        end
                    else a[i,j]:=1;
            end;
        end;
    for i:=1 to n do
        begin
            for j:=1 to n do
                write(a[i,j], ' ');
            writeln;
        end;
    end.
```
-

Varianta 45:

1. a 2. a 4. $a[2,1]=1$

3. Decendenții rădăcinii: 1, 7 / Frunze 5, 6, 8, 9

5.

```
var s:string[40];
    i,j:integer;
begin
    write(' s= '); read(s);
    for i:=1 to length(s) do
        begin
            for j:=1 to length(s) do
                if i<>j
                    then write(s[j]);
            writeln;
        end;
    end.
```
-

Varianta 46:

1. c 2. a 3. 6 frunze 4. 1 element

5.

```
var s:string[100];
```

```

    i:integer;
begin
  write(' s= '); read(s);
  for i:=1 to length(s) do
    if ( s[i]='a' ) or ( s[i]='e' ) or ( s[i]='i' ) or ( s[i]='o' ) or ( s[i]='u' )
      then s[i]:=chr( ord(s[i])+1 );
    write(' s= ',s);
  end.

```

Varianta 47:

1. c 2. b 3. acalaureat

4. $f.a \bmod k = 0$ and $f.b \bmod k = 0$

```

5. var n,m,m1,i,j:integer;
    a,b:array[1..100,1..100]of integer;
begin
  write(' n= '); read(n);
  write(' m= '); read(m);
  for i:=1 to m do
    for j:=1 to n do
      begin
        write(' A[' ,i ,',',j ,']= ');
        read(a[i,j]);
      end;
    for i:=1 to m do
      for j:=1 to n do
        if i mod 2=0
          then b[i div 2,j]:=a[i,j];
        m1:=m div 2 + m mod 2;
        for i:=1 to m1 do
          begin
            for j:=1 to n do
              write(b[i,j], ' ');
            writeln;
          end;
        end.

```

Varianta 48:

1. b 2. a 3. $1 \rightarrow 2 \rightarrow 6 \rightarrow 5$ (lungime 3)

4. $\text{sqrt}(a.x*a.x+a.y*a.y)$

```

5. var n,k,i,j:integer;
    a,b:array[1..100,1..100]of integer;
begin

```

```

write(' n= '); read(n);
for i:=1 to n do
  for j:=1 to n do
    begin
      k:=k+2;
      a[i,j]:=k;
    end;
  for i:=1 to n do
    begin
      for j:=1 to n do
        write(a[i,j], ' ');
      writeln;
    end;
  end.

```

Varianta 49:

1. d 2. c 3. $(x.med1 + x.med2) / 2$ 4. 1

5. var s,s1:string[20];
 i:integer;
 begin
 write(' s= '); read(s);
 s1:='';
 for i:=1 to length(s) do
 if (s[i]='a') or (s[i]='e') or (s[i]='i') or (s[i]='o') or (s[i]='u')
 then s1:=s1+s[i];
 write(' s1= ',s1);
 end.

Varianta 50:

1. a 2. d 3. 6 noduri 4. r

5. var s,s1:string[100];
 i:integer;
 function vocala(c:char):boolean;
 begin
 if (c='a') or (c='e') or (c='i') or (c='o') or (c='u')
 then vocala:=true
 else vocala:=false;
 end;

 begin
 write(' s1= '); read(s1);
 s:=s1;
 i:=1;
 while (not vocala(s[i])) and (i<=length(s)) do

```

    i:=i+1;
    if i<length(s)+1 then delete(s,i,1);
    i:=length(s);
    while ( not vocala(s[i]) ) and (i>=1) do
        i:=i-1;
    if i>0 then delete(s,i,1);
    write(' s= ',s);
end.

```

Varianta 51:

1. a

2. d

3. 12

4. Radacina 2 iar nodurile terminale 1, 4, 5, 8, 10

```

5. var s:string[30];
    i:integer;
    ok:boolean;
begin
    write(' s= '); read(s);
    ok:=true;
    for i:=1 to length(s) do
        if ( s[i]<>' ') and ( ( s[i]<'a' ) or ( s[i]>'z' ) ) and ( ( s[i]<'A' ) or ( s[i]>'Z' ) )
            then ok:=false;
    if ok
        then write(' DA ')
        else write(' NU ');
end.

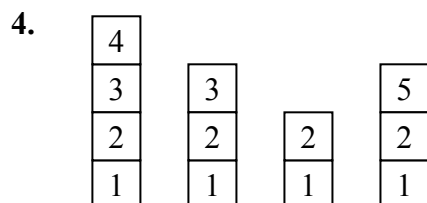
```

Varianta 52:

1. a

2. b

3. 20



```

5. var s:string[100];
    i:integer;
begin
    write(' S= '); read(s);
    if s[1]<>' '
        then write(s[1]);
    for i:=2 to length(s) do
        if (s[i-1]=' ') and (s[i]<>' ')
            then write(s[i]);

```

end.

Varianta 53:

1. c

2. a

3. 2

4. Tata=(3, 4, 4, 0, 2, 3, 6, 6). Descendentii sunt 6, 1, 7, 8 (insa numai primi doi sunt descendenți directi)

5.

```
var i, j, n, m, x, y, aux:integer;
    a:array[1..20, 1..20]of integer;
begin
  write(' m= '); read(m);
  write(' n= '); read(n);
  write(' x= '); read(x);
  write(' y= '); read(y);
  for i:=1 to m do
    for j:=1 to n do
      begin
        write(' A[' ,i, ', ',j, ']= ');
        read(a[i,j]);
      end;
  for i:=1 to n do
    begin
      aux:=a[x,i];
      a[x,i]:=a[y,i];
      a[y,i]:=aux;
    end;
  for i:=1 to m do
    begin
      for j:=1 to n do
        write(a[i,j], ' ');
      writeln;
    end;
end.
```

Varianta 54:

1. d

2. b

3. k1=7; k2=4

4. 7

5.

```
var i, j, n, x:integer;
    a:array[1..20, 1..20]of integer;
begin
  write(' n= '); read(n);
  write(' x= '); read(x);
  for i:=1 to n do
    for j:=1 to n do
      if i mod 2=0
```

```

        then a[i,j]:= x mod 10
        else a[i,j]:=x div 10;
for i:=1 to n do
begin
    for j:=1 to n do
        write(a[i,j], ' ');
        writeln;
    end;
end.

```

Varianta 55:

1. c

2. a

3. 2 1

4.

| | | | |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
|---|---|---|---|

| | | |
|---|---|---|
| 2 | 3 | 4 |
|---|---|---|

| | | | |
|---|---|---|---|
| 2 | 3 | 4 | 5 |
|---|---|---|---|

```

5. var s,s1:string[100];
    i:integer;
begin
    write(' s= '); read(s);
    s1:='';
    for i:=1 to length(s) do
        if (s[i]>='0') and (s[i]<='9')
            then s1:=s1+s[i];
        write(' s1= ',s1);
    end.

```

Varianta 56:

1. c

2. d

3. 2,3,5,8

4. (c>='a' and (c<='z'))

```

5. var n,k,i,j:integer;
    a:array[1..25,1..25]of integer;
begin
    write(' n= '); read(n);
    write(' k= '); read(k);
    for i:=1 to n do
        for j:=1 to n do
            if j<=k
                then a[i,j]:=1
                else a[i,j]:=2;
    for i:=1 to n do
        begin
            for j:=1 to n do
                write(a[i,j]:3);
            writeln;
        end
    end

```

end.

Varianta 57:

1. c

2. a

3. 5

4. (c='a') or (c='e') or (c='i') or (c='o') or (c='u')

```

5. var n,a,i,j:integer;
    mat:array[1..25,1..25]of integer;
begin
  write(' n= '); read(n);
  write(' a= '); read(a);
  for i:=1 to n do
    for j:=1 to n do
      if i<a
        then mat[i,j]:=1
        else if i=a
          then mat[i,j]:=0
          else mat[i,j]:=2;
    for i:=1 to n do
      begin
        for j:=1 to n do
          write(mat[i,j]:3);
        writeln;
      end
    end.

```

Varianta 58:

1. b

2. b

3. 2

4. $i < j$

```

5. var s:string[50];
    i,c:integer;
begin
  write(' s= '); readln(s);
  for i:=1 to length(s) do
    if (s[i]>='a') and (s[i]<='z')
      then c:=c+1;
    write(' c= ',c);
  end.

```

Varianta 59:

1. a

2. c

3. 1,2,6,7,8

4. $i=9$

```

5. var s:string[50];

```

```

    i,max:integer;
    a:array[0..9] of integer;
begin
    write(' s= '); readln(s);
    for i:=1 to length(s) do
        if (s[i]>='0') and (s[i]<='9')
            then a[ord(s[i])-ord('0')]:=a[ord(s[i])-ord('0')]
+1;
    max:=a[0];
    for i:=1 to 9 do
        if max<a[i]
            then max:=a[i];
    i:=0;
    while a[i]<max do
        i:=i+1;
    write(i);
end.

```

Varianta 60:

1. d 2. c 3. 1 4. 75

5. var s:string[50];
 i,max:integer;
 a:array[0..40] of integer;
begin
 write(' s= '); readln(s);
 for i:=1 to length(s) do
 if (s[i]>='a') and (s[i]<='z')
 then a[ord(s[i])-ord('a')]:=a[ord(s[i])-ord('a')]
+1;
 max:=0;
 for i:=0 to 40 do
 if max<a[i]
 then max:=a[i];
 i:=0;
 if max<>0
 then begin
 while a[i]<max do
 i:=i+1;
 write(chr(i+ord('a')));
 end
 else write(' NU ');
end.

Varianta 61:

1. d 2. c 3. 99 4. f

```
5. var n,i,j:integer;
    a:array[1..100,0..100]of integer;
begin
  write(' n= '); read(n);
  for j:=1 to n do
    a[n,j]:=j;
  for i:=n-1 downto 1 do
    for j:=1 to i do
      a[i,j]:=a[i+1,j-1]+a[i+1,j]+a[i+1,j+1];
    for i:=1 to n do
      begin
        for j:=1 to n do
          write(a[i,j]:3);
        writeln;
      end;
    end.
end.
```

Varianta 62:

1. a 2. b 3. 0 4. e

```
5. var s:string[255];
    i:integer;
    a:array[0..255]of integer;
begin
  write(' s= '); read(s);
  for i:=1 to length(s) do
    if (s[i]>='a') and (s[i]<='z') and (a[ord(s[i])]=0)
    then begin
      write(s[i],' ');
      a[ord(s[i])]:=1;
    end;
  end.
end.
```

Varianta 63:

1. b 2. b 3. 6

```
4. if length(s1)<length(s2)
    then write(s1,' ',s2)
    else write(s2,' ',s1);

5. var n,m,i,j,k:integer;
    a:array[1..50,1..50] of integer;
begin
  write(' n= '); read(n);
  write(' m= '); read(m);
  k:=1;
```

```

for j:=1 to m do
  for i:=1 to n do
    begin
      a[i,j]:=k;
      k:=k+1;
    end;
  for i:=1 to n do
    begin
      for j:=1 to m do
        write(a[i,j]:4);
      writeln;
    end;
  end.

```

Varianta 64:

1. d

2. a

4. 3

3. 0 1 1 0 0
 1 0 1 1 0
 1 1 0 1 1
 0 1 1 0 1
 0 0 1 1 0

5. var s:string[100];
 i,j,c:integer;
 function vocala(c:char):boolean;
 begin
 vocala:=false;
 if (c='a')or(c='A')or(c='e')or(c='E')or(c='i')or(c='I')or(c='o')or(c='O')or(c='u')or(c='U')
 then vocala:=true;
 end;

begin
 write(' s= '); readln(s);
 s:=' '+s; c:=0;
 for i:=2 to length(s) do
 if (s[i-1]=' ') and (s[i]<>' ')
 then begin
 j:=i;
 while (s[j+1]<>' ') and (j<=n) do j:=j+1;
 if vocala(s[i]) and vocala(s[j])
 then c:=c+1;
 end;
 write(c);
 end.

Varianta 65:

1. c 2. d 3. 5, 8 4. f

```
5. var n,m,i,j,k:integer;
    a:array[1..50,1..50] of integer;
begin
  write(' n= '); read(n);
  write(' m= '); read(m);
  k:=1;
  for i:=1 to n do
    if i mod 2 =1
      then for j:=1 to m do
            begin
              a[i,j]:=k;
              k:=k+1;
            end
          else for j:=m downto 1 do
            begin
              a[i,j]:=k;
              k:=k+1;
            end;
          for i:=1 to n do
            begin
              for j:=1 to m do
                write(a[i,j]:4);
              writeln;
            end;
          end.
end.
```

Varianta 66:

1. c 2. b 3. 3, 5

```
4. 1 1 1 1 1
   4 4 4 4 4
   3 3 3 3 3
   2 2 2 2 2
   5 5 5 5 5
```

```
5. var s:string[50];
    k:integer;
begin
  write(' s= '); read(s);
  for k:=1 to length(s) do
    writeln(copy(s,1,k));
  end.
```

Varianta 67:

-
3. `s1:=s1+a[i,i];`
`s2:=s2+a[i,n-i+1];`
4. `readln(e1.ume); readln(e1.nota);`
`readln(e2.ume); readln(e2.nota);`
`if e1.nota>=e2.nota`
`then write(e1.nota)`
`else write(e2.nota);`
5. `var n,i,j,k:integer;`
`a:array[1..100,1..100]of integer;`
`begin`
`write(' n= '); read(n);`
`k:=0;`
`for j:=1 to n do`
`for i:=1 to n do`
`begin`
`k:=k+1;`
`a[i,j]:=k;`
`end;`
`for i:=1 to n do`
`begin`
`for j:=1 to n do`
`write(a[i,j]:4);`
`writeln;`
`end;`
`end.`
-

Varianta 72:

1. c 2. a 3. 3 comp. conexe 4. 1 arc

5. `var n,i,j,k:integer;`
`a:array[1..100,1..100]of integer;`
`begin`
`write(' n= '); read(n);`
`k:=0;`
`for i:=1 to n do`
`for j:=1 to n-i+1 do`
`begin`
`k:=k+1;`
`a[i,j]:=k;`
`end;`
`k:=0;`
`for j:=n downto 2 do`
`for i:=n downto n-j+1 do`
`begin`
`k:=k+1;`
`a[i,j]:=k;`
`end;`

```
        for j:=i+1 to length(s)-i do
            write(s[j]);
        writeln;
    end;
end.
```

Varianta 77:

1. a 2. c 3. 3 4. 5

5. var s:string[51];
 i:integer;
begin
 write(' S= '); readln(s);
 s:=' '+s;
 for i:=2 to length(s) do
 if (s[i-1]=' ') and (s[i]<>' ')
 then s[i]:=chr(ord(s[i])-ord('a')+ord('A'));
 delete(s,1,1);
 write(' s= ',s);
end.

Varianta 78:

1. c 2. b 3. 2 4. 4

5. var t,x:string[100];
 c:string[15]; p:integer;
function gasire(s,c:string; ind:integer):integer;
var i,j:integer;
 ok:boolean;
begin
 for i:=ind to length(s) do
 if (s[i]=c[1])
 then begin
 ok:=true;
 j:=1;
 while (j<length(c)) and (ok) do
 begin
 if c[j]<>s[i+j-1]
 then ok:=false;
 j:=j+1;
 end;
 if ok
 then begin gasire:=i; exit; end;
 end;
 gasire:=0;
end;


```

5. var s:string;
    i,j:integer;
    aux:char;
begin
  write(' s= '); readln(s);
  for i:=1 to length(s) div 2 do
    begin
      j:=length(s) div 2 + length(s) mod 2 + i;
      aux:=s[i];
      s[i]:=s[j];
      s[j]:=aux;
    end;
  write(' s= ',s);
end.

```

Varianta 81:

1. c

2. a

```

3. a:=a+b;
   b:=a-b;
   a:=a-b;

```

```

4. if (length(cuv) mod 2=0)
   then write(cuv[length(cuv) div 2],cuv[length(cuv) div 2+1])
   else write(cuv[length(cuv) div 2 +1]);

```

```

5. var n,m,i,j,imin,imax,jmin,jmax,aux:integer;
    a:array[1..100,1..100]of integer;
begin
  write(' n= '); read(n);
  write(' m= '); read(m);
  for i:=1 to n do
    for j:=1 to m do
      begin
        write(' A[' ,i, ',' ,j, ']= ');
        read(a[i,j]);
      end;
  imin:=1; jmin:=1;
  imax:=1; jmax:=1;
  for i:=1 to n do
    for j:=1 to m do
      begin
        if a[i,j]<a[imin,jmin]
        then begin
          imin:=i;
          jmin:=j;
        end;
        if a[i,j]>a[imax,jmax]

```

```
        then begin
            imax:=i;
            jmax:=j;
        end;
    end;
    aux:=a[imin,jmin];
    a[imin,jmin]:=a[imax,jmax];
    a[imax,jmax]:=aux;

    for i:=1 to n do
        begin
            for j:=1 to m do
                write(a[i,j]:4);
                writeln;
            end;
        end;
    end.
```

Varianta 82:

1. c

2. c

3. tarta

4. noduri cu grad par: 2; noduri cu grad impar: 2

```
5. var n,i,j,imin,imax,aux:integer;
    a:array[1..100,1..100]of integer;
begin
    write(' n= '); read(n);
    for i:=1 to n do
        for j:=1 to n do
            begin
                write(' A[' ,i ,',',j ,']= ');
                read(a[i,j]);
            end;
        imin:=1;
        imax:=1;
        for i:=1 to n do
            begin
                if a[i,i]<a[imin,imin]
                    then imin:=i;
                if a[i,i]>a[imax,imax]
                    then imax:=i;
            end;
        aux:=a[imin,imin];
        a[imin,imin]:=a[imax,imax];
        a[imax,imax]:=aux;

        for i:=1 to n do
            begin
                for j:=1 to n do
                    write(a[i,j]:4);
```

```

        writeln;
    end;
end.

```

Varianta 83:**1. d****2. a**

3. 0 1 1 0 0
 1 0 1 0 0
 1 1 0 0 0
 0 0 0 0 1
 0 0 0 1 0

4. for i:=1 to length(cuv) do
 if (cuv[i]='a') or (cuv[i]='e') or (cuv[i]='i') or (cuv[i]='o') or (cuv[i]='u')
 then write(cuv[i]);

5. var n,i,j,imin,imax,aux:integer;
 a:array[1..100,1..100]of integer;
 begin
 write(' n= '); read(n);
 for i:=1 to n do
 for j:=1 to n do
 begin
 write(' A[' ,i,',' ,j,']= ');
 read(a[i,j]);
 end;
 imin:=1;
 imax:=1;
 for i:=1 to n do
 begin
 if a[i,n+1-i]<a[imin,n+1-imin]
 then imin:=i;
 if a[i,n+1-i]>a[imax,n+1-imax]
 then imax:=i;
 end;
 aux:=a[imin,n+1-imin];
 a[imin,n+1-imin]:=a[imax,n+1-imax];
 a[imax,n+1-imax]:=aux;

for i:=1 to n do
 begin
 for j:=1 to n do
 write(a[i,j]:4);
 writeln;
 end;
end.

Varianta 84:

1. a
 2. a
 3. `write(chr(ord(c)+1));`
 4. `write(el.num, ' ', el.prenume, ' ', el.mediabac);`
 5.

```
var n,i,j:integer; p:longint; ok:boolean;
    a:array[1..100,1..100]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      begin
        write(' A[' ,i, ', ',j, ']= ');
        read(a[i,j]);
      end;
    p:=1;
    ok:=false;
    for i:=1 to n do
      if a[i,i] mod 2=0
        then begin
          ok:=true;
          p:=p*a[i,i];
        end;
    if ok
      then write(' p= ',p)
      else write(' IMPOSIBIL ');
end.
```
-

Varianta 85:

1. a
2. b
3.

```
readln(p.num);
readln(p.prenume);
readln(p.salariu);
```
4. `write(a[1,1]*a[2,2]*a[3,3]*a[4,4]);`
5.

```
var n,i,j:integer; p:longint; ok:boolean;
    a,b,c:array[1..10,1..10]of integer;
begin
  write(' n= '); read(n);
  for i:=1 to n do
    for j:=1 to n do
      begin
        write(' A[' ,i, ', ',j, ']= ');
        read(a[i,j]);
      end;
```

```

for i:=1 to n do
  for j:=1 to n do
    begin
      write(' B[' ,i, ', ',j, '= ');
      read(b[i,j]);
    end;
for i:=1 to n do
  for j:=1 to n do
    if i<j
      then c[i,j]:=a[i,j]
      else if i>j
        then c[i,j]:=b[i,j]
        else if a[i,j]<b[i,j]
          then c[i,j]:=a[i,j]
          else c[i,j]:=b[i,j];
for i:=1 to n do
  begin
    for j:=1 to n do
      write(c[i,j]:4);
    writeln;
  end;
end.

```

Varianta 86:**1. d****2. a****4. 7**

3. 0 1 1 1 0 0
 1 0 0 0 0 0
 1 0 0 0 1 1
 1 0 0 0 0 0
 0 0 1 0 0 0
 0 0 1 0 0 0

5. var n,i,j,i1,i2:integer;
 a:array[1..20,1..20]of integer;
 begin
 write(' n= '); read(n);
 i1:=1;
 for i:=1 to 2*n do
 if i mod 2 =1
 then for j:=1 to 2*n do
 begin
 a[i,j]:=i1;
 i1:=i1+2;
 end
 else begin
 i2:=i1-4*n+1;
 for j:=2*n downto 1 do
 begin

```

        a[i,j]:=i2;
        i2:=i2+2;
    end;
    end;
for i:=1 to 2*n do
    begin
        for j:=1 to 2*n do
            write(a[i,j]:4);
            writeln;
        end;
    end.

```

Varianta 87:

1. d 2. b 3. 1,2 4. 45

5. var a:array[1..20,1..20] of integer;
 i,j,n,s,nr:integer;
 begin
 write(' n= '); read(n);
 for i:=1 to n do
 for j:=1 to n do
 begin
 write(' A[' ,i ,',',j ,']= ');
 read(a[i,j]);
 end;
 s:=0; nr:=0;
 for i:=2 to n do
 for j:=1 to i-1 do
 if a[i,j]>0
 then begin
 s:=s+a[i,j];
 nr:=nr+1;
 end;
 write(' MA= ',(s/nr):5:2);
 end.

Varianta 88:

1. a 2. b 3. 3,4,5,6 4. 24

5. var a:array[1..20,1..20] of integer;
 i,j,n,s,nr:integer;
 begin
 write(' n= '); read(n);
 for i:=1 to n do
 for j:=1 to n do
 begin
 write(' A[' ,i ,',',j ,']= ');


```

        read(a[i,j]);
    end;
s:=0; nr:=0;
for i:=1 to n-1 do
    for j:=i+1 to n do
        if a[i,j]>0
            then begin
                s:=s+a[i,j];
                nr:=nr+1;
            end;
        write(' MA= ',(s/nr):5:2);
    end.

```

Varianta 89:**1. d****2. a****4. 28**

3.

```

0 1 1 0 0 0 0
1 0 0 1 0 0 1
1 0 0 0 1 1 0
0 1 0 0 0 0 0
0 0 1 0 0 0 0
0 0 1 0 0 0 0
0 1 0 0 0 0 0

```

5.

```

var T:array[1..6,1..6] of integer;
    i,j,n,a,c,b:integer;
begin
    write(' n= '); read(n);
    a:=1; b:=0;
    for i:=1 to n do
        if i mod 2=1
            then for j:=1 to n do
                begin
                    T[i,j]:=b;
                    c:=a+b;
                    a:=b;
                    b:=c;
                end
            else for j:=n downto 1 do
                begin
                    T[i,j]:=b;
                    c:=a+b;
                    a:=b;
                    b:=c;
                end;
        for i:=1 to n do
            begin
                for j:=1 to n do
                    write(T[i,j]:4);

```

```

        writeln;
    end;
end.

```

Varianta 90:

1. a 2. b 3. 2,1 4. 10

```

5. var a:array[1..20,1..20] of integer;
    i,j,n,s,nr,s2,nr2:integer;
    m1,m2:real;
begin
    write(' n= '); read(n);
    for i:=1 to n do
        for j:=1 to n do
            begin
                write(' A[' ,i, ', ',j, ']= ');
                read(a[i,j]);
            end;
        s:=0; nr:=0;
        for i:=1 to n-1 do
            for j:=i+1 to n do
                if a[i,j]>0
                    then begin
                        s:=s+a[i,j];
                        nr:=nr+1;
                    end;
            m1:= s / nr;
            s2:=0; nr2:=0;
            for i:=2 to n do
                for j:=1 to i-1 do
                    if a[i,j]>0
                        then begin
                            s2:=s2+a[i,j];
                            nr2:=nr2+1;
                        end;
            m2:= s2 / nr2;
            write(' M1-M2= ',m1-m2:5:2);
end.

```

Varianta 91:

1. b 2. a 3. 3 4. iarba

```

5. var a:array[1..50,1..50] of integer;
    i, j, n, m, v0, ind, max:integer;
begin
    write(' n= '); read(n);

```

```

write(' m= '); read(m);
for i:=1 to n do
  for j:=1 to m do
    begin
      write(' A[' ,i, ', ',j, ']= ');
      read(a[i,j]);
    end;
ind:=0; max:=0;
for i:=1 to n do
  begin
    v0:=0;
    for j:=1 to m do
      if a[i,j]>0
        then v0:=v0+1;
    if v0>max
      then begin
        max:=v0;
        ind:=i;
      end;
    end;
  write(' Ind= ',ind);
end.

```

Varianta 92:**1.** b**2.** b**3.** (3, 6, 0, 1, 3, 1)**4.** (v.origine.x = v.extremitate.x) and (v.origine.y = v.extremitate.y)

5. var a:array[1..50,1..50] of integer;
 i, j, n, m, imin, jmin, max:integer;
 begin
 write(' m= '); read(m);
 write(' n= '); read(n);
 for i:=1 to m do
 for j:=1 to n do
 begin
 write(' A[' ,i, ', ',j, ']= ');
 read(a[i,j]);
 end;
 imin:=1; jmin:=1;
 for i:=1 to m do
 for j:=1 to n do
 if a[i,j]<a[imin,jmin]
 then begin
 imin:=i;
 jmin:=j;
 end;
 for i:=1 to m do
 for j:=jmin+1 to n do

```

        a[i,j-1]:=a[i,j];
n:=n-1;
for j:=1 to n do
    for i:=imin+1 to m do
        a[i-1,j]:=a[i,j];
m:=m-1;
for i:=1 to m do
    begin
        for j:=1 to n do
            write(a[i,j], ' ');
        writeln;
    end;
end.

```

Varianta 93:

1. d 2. b 3. 1 4. 2

```

5. var sa1,sa2,s1,s2:string[200];
    i:integer;

function sablon(x:string):string;
var s:string;
begin
    s:='';
    for i:=1 to length(x) do
        if (x[i]='a') or (x[i]='e') or (x[i]='i') or
(x[i]='o') or (x[i]='u')
            then s:=s+'*'
            else s:=s+'#';
    sablon:=s;
end;

begin
    write(' s1= '); readln(s1);
    write(' s2= '); readln(s2);
    sa1:=sablon(s1);
    sa2:=sablon(s2);
    for i:=1 to length(sa1) do
        if sa1[i]=sa2[i]
            then write(sa1[i])
            else write('?');
end.

```

Varianta 94:

1. b 2. a 3. (3, 5, 5, 5, 0)

4. 1: 2
2: 3, 5

3: 1, 5
4: 3
5: 4

```
5. var s:string[20];
    i,j:integer;
begin
  write(' s= '); readln(s);
  i:=pos(' ',s);j:=i;
  while s[i]=' ' do i:=i+1;
  s:=copy(s,i,length(s))+' '+copy(s,1,j-1);
  write(' s= ',s);
end.
```

Varianta 95:

1. b

2. d

3. lungime:5 arcele: (1, 2); (2, 4); (4, 3); (3, 2); (2 ,5)

4. 1: 2
2: 1
3: 8
4: 5, 6, 7
5: 4, 6, 7
6: 4, 5, 7
7: 4, 5, 6
8: 3

```
5. var s:string[20];
    i,j:integer;
begin
  write(' s= '); readln(s);
  i:=pos(' ',s);j:=i;
  while s[i]=' ' do i:=i+1;
  s:=copy(s,i,1)+'.' +copy(s,1,j-1);
  write(' s= ',s);
end.
```

Varianta 96:

1. d

2. a

3. (1, 2); (2, 4); (4, 3); (3, 2); (2 ,5)

4. 1: 2
2: 1
3: 4, 8

4: 3, 5
 5: 4, 6
 6: 5, 7
 7: 6
 8: 3

```
5. var n,p:string[20];
    s:string[40];
begin
  write(' nume= '); readln(n);
  write(' prenume= '); readln(p);
  s:=p+' '+n;
  write(' s= ',s);
end.
```

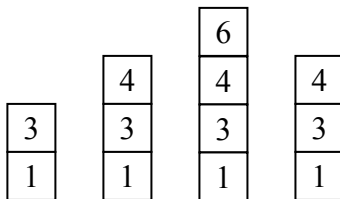
Varianta 97:

1. c

2. a

3. TITA

4.



```
5. var a:array[1..50,1..50]of integer;
    n,m,i,j,aux:integer;
begin
  write(' n= '); read(n);
  write(' m= '); read(m);
  for i:=1 to n do
    for j:=1 to m do
      begin
        write(' A[' ,i, ', ' ,j, ']= ');
        read(a[i,j]);
      end;
    for j:=1 to m do
      for i:=1 to n div 2 do
        begin
          aux:=a[i,j];
          a[i,j]:=a[n-i+1,j];
          a[n-i+1,j]:=aux;
        end;
      for i:=1 to n do
        begin
          for j:=1 to m do
            write(a[i,j], ' ');
          writeln;
        end;
      end;
    end;
  end;
```