

# turbo pascal για την Γ' Γυμνασίου

Οι δομές της PASCAL  
σε 40 απλά  
παραδείγματα

- 1<sup>ο</sup> Γυμνάσιο Ιωαννίνων  
Σχολ. έτος 1995-2003  
Β. Φούκης

pascal : for ... to

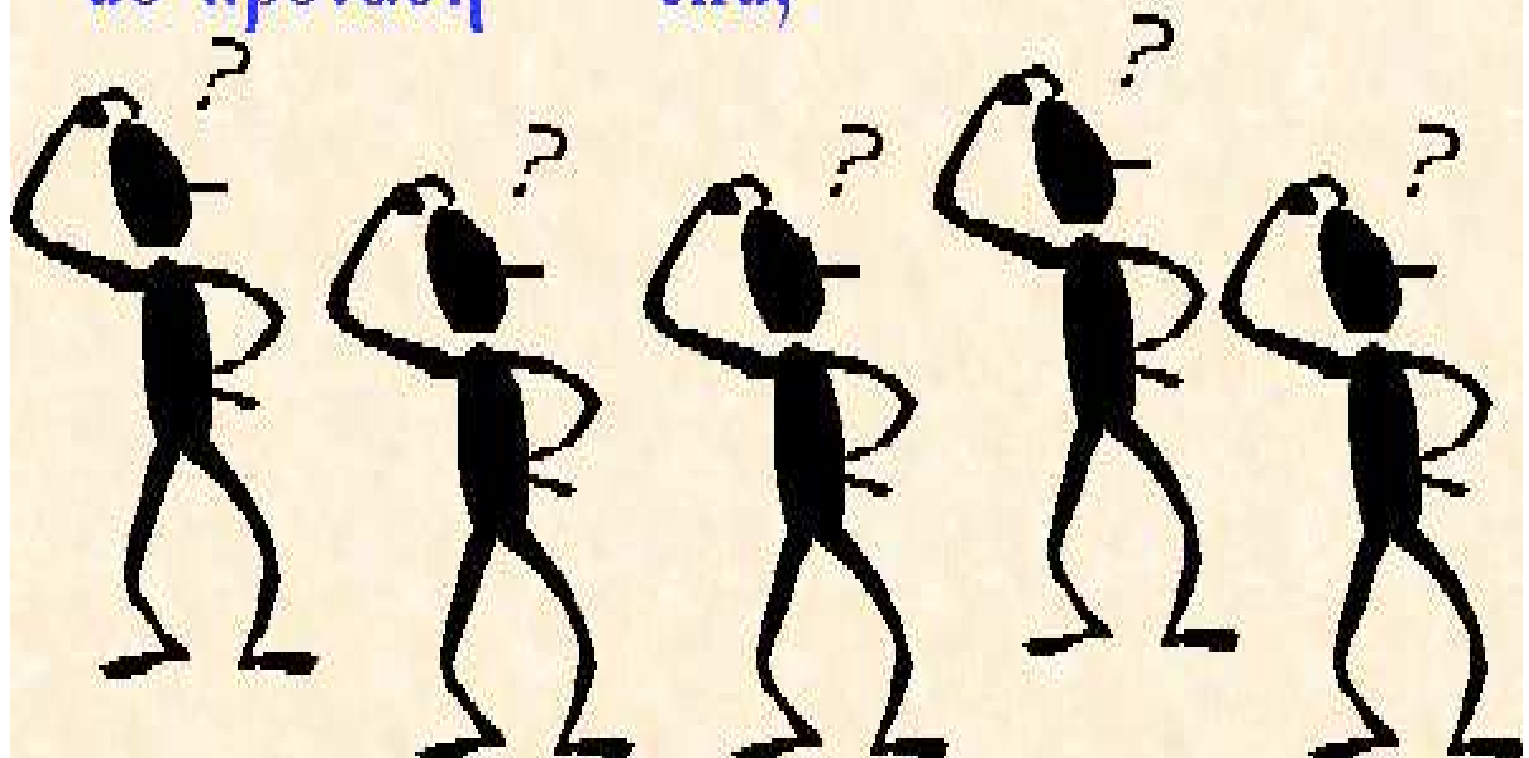
γενική μορφή εντολής:

for αρχική\_τιμή=... to τελική\_τιμή=...

do πρόταση end;

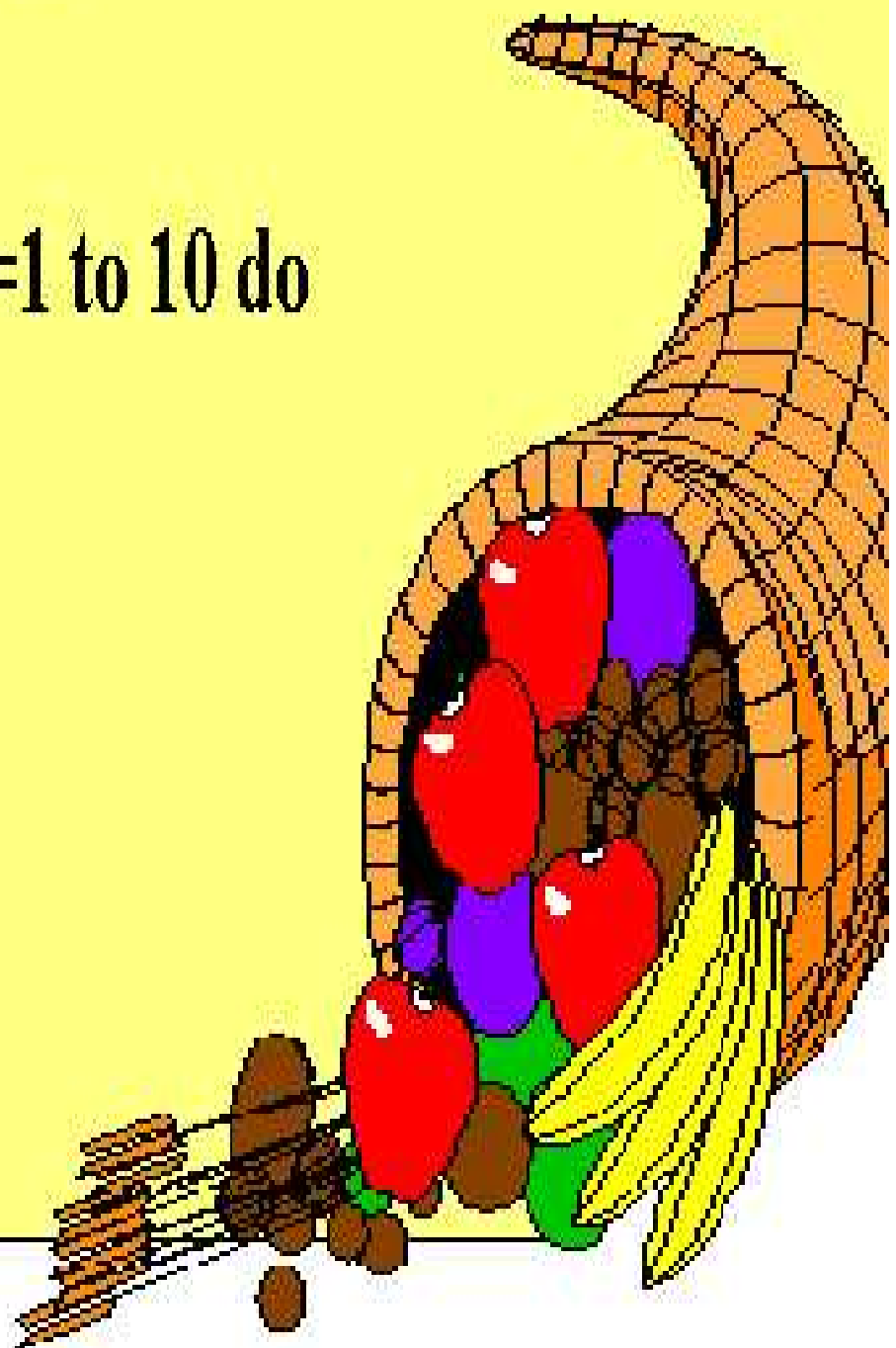
for αρχική\_τιμή=... downto τελική\_τιμή=...

do πρόταση end;



# pascal : for ... to

- program for1;
- var ar1: integer;
- begin
- for ar1:=1 to 10 do
- write (ar1);
- end.



# pascal : for ... to

- program for1a;
- var ar1: integer;
- begin
- for ar1:=1 to 10 do
- writeln (ar1,'   ',3\*ar1);
- end.

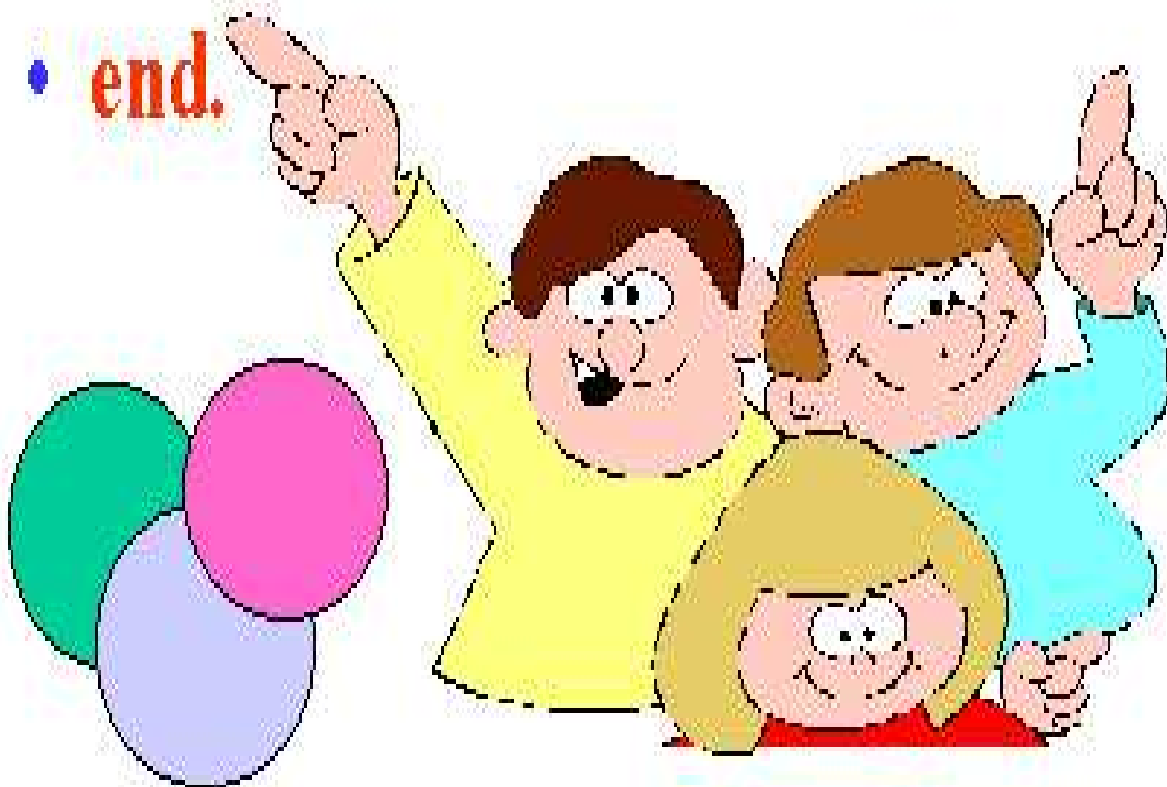


# pascal : for ... to

- program for1b;
- var ar1: integer;
- begin
- for ar1:= -10 to 10 do
- write (ar1);
- end.

# pascal : for ... to

- program for1c;
- var ar1: integer;
- begin
- for ar1:= -10 to 10 do
- writeln (ar1,' 3\*ar1+5);
- end.



# pascal : for ... to

- program for1d;
- var ar1: integer;
- begin
- for ar1:= 1 to 5 do
- writeln (ar1\*ar1);
- end.



# pascal : for ... downto

- program for2;
- var ar1: integer;
- begin
- for ar1:= 15 downto 1 do
- writeln (ar1);
- end.



# pascal : for ... to

- program for3;
- var ar1,ar2: integer;
- begin
- for ar1:= 1 to 3 do
- for ar2:=1 to 3 do
- writeln (ar1,' ',ar2);
- end.



# pascal : for ... to

- program for3a;
- var ar1,ar2: integer;
- begin
- for ar1:= 1 to 3 do
- writel (ar1);
- for ar2:=1 to 3 do
- writeln (ar2);
- end.



# pascal : for ... to

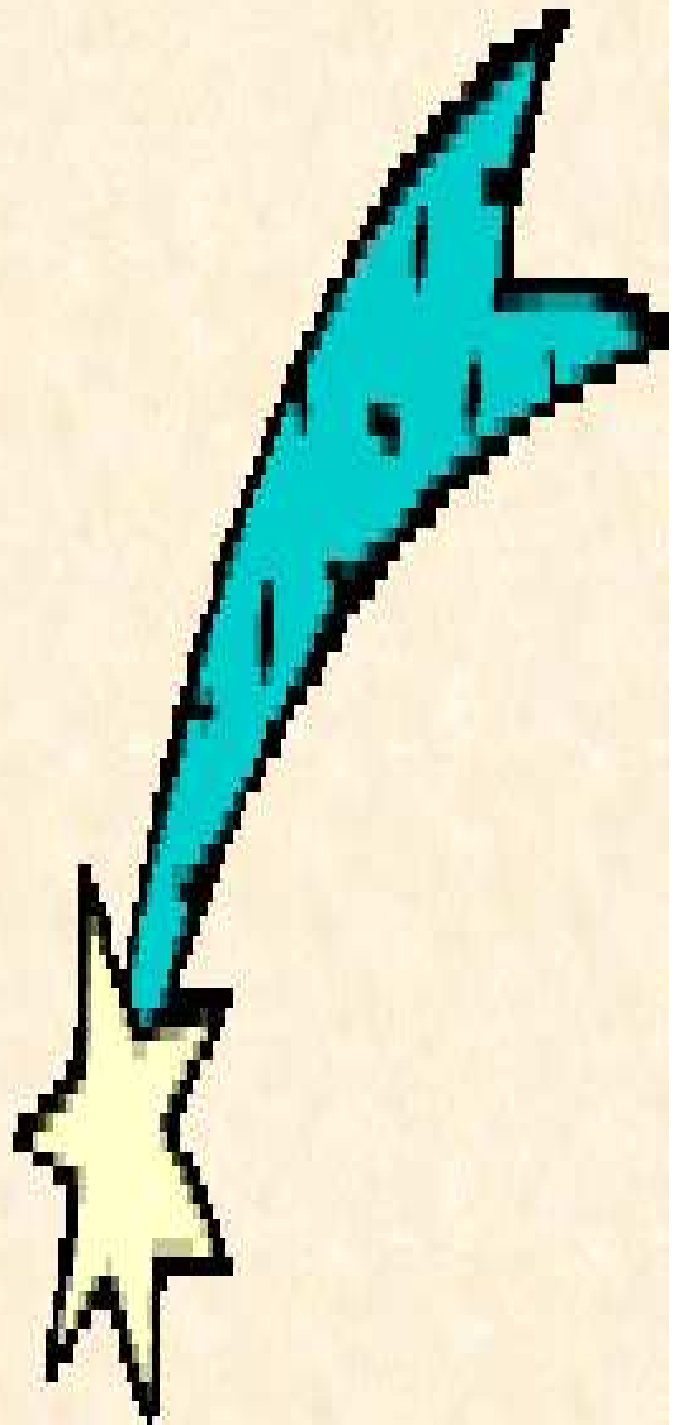
- program for4;
- var syn:real;ar1,ar2: integer;
- begin
- syn:=0.0;
- write ('αριθμός= '); readln ar2;
- for ar1:= 1 to ar2 do
- syn:=syn+1;
- writeln ('άθροισμα(',1,'\_',ar2 ,') =',syn:4);
- end.

# pascal : for ... to / downto

- program for5;
- var ar1,ar2: integer;
- begin
- for ar1:= 1 to 15 do
- writeln (ar1);
- for ar2:= 15 downto 1 do
- writeln (ar2);
- end.

# pascal : pin\_for ... to/ downto

- program pinfor1;
- var ar:array[1..10] of integer; i:=integer;
- begin
- writeln ('ap= ');
- for i:=1 to 10 do
- readln (ar[i]);
- for i:=1 to 10 do
- writeln (ar[i]:3);
- for i:=10 downto 1 do
- writeln ([i]); end.



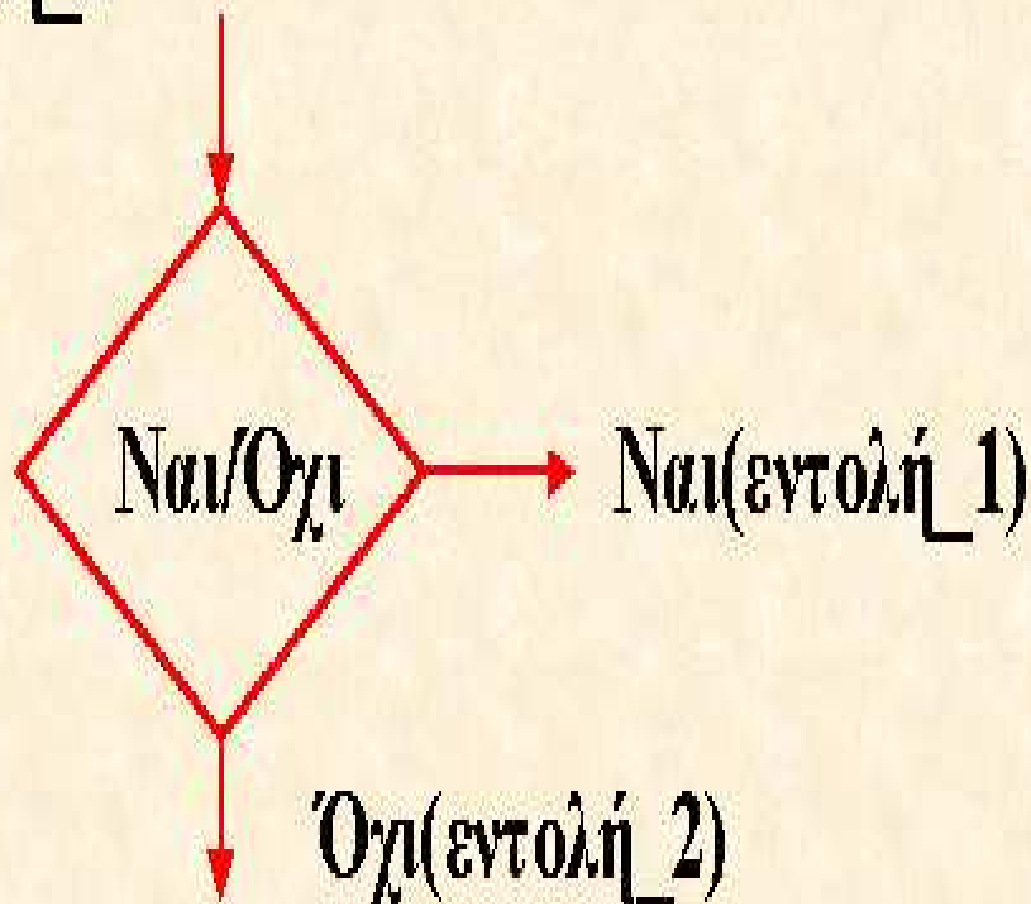
# pascal : pin\_for ... to/ downto

- program pinfor2;
- var grammar:array[1..20] of char; n,i:=integer;
- begin
- writeln ('a.p= ');
- readln (n);
- for i:=1 to 10 do
- read (grammar[i]); writeln;
- for i:=n downto 1 do
- writeln (grammar[i]);
- end.

# pascal : if ... then ... else

if συνθήκη=αληθής then εντολή

if συνθήκη=αληθής then εντολή\_1 else  
εντολή\_2



# pascal : if ... then ... else

```
Program Arithmos1;
```

```
uses crt;
```

```
var a:integer;
```

```
begin
```

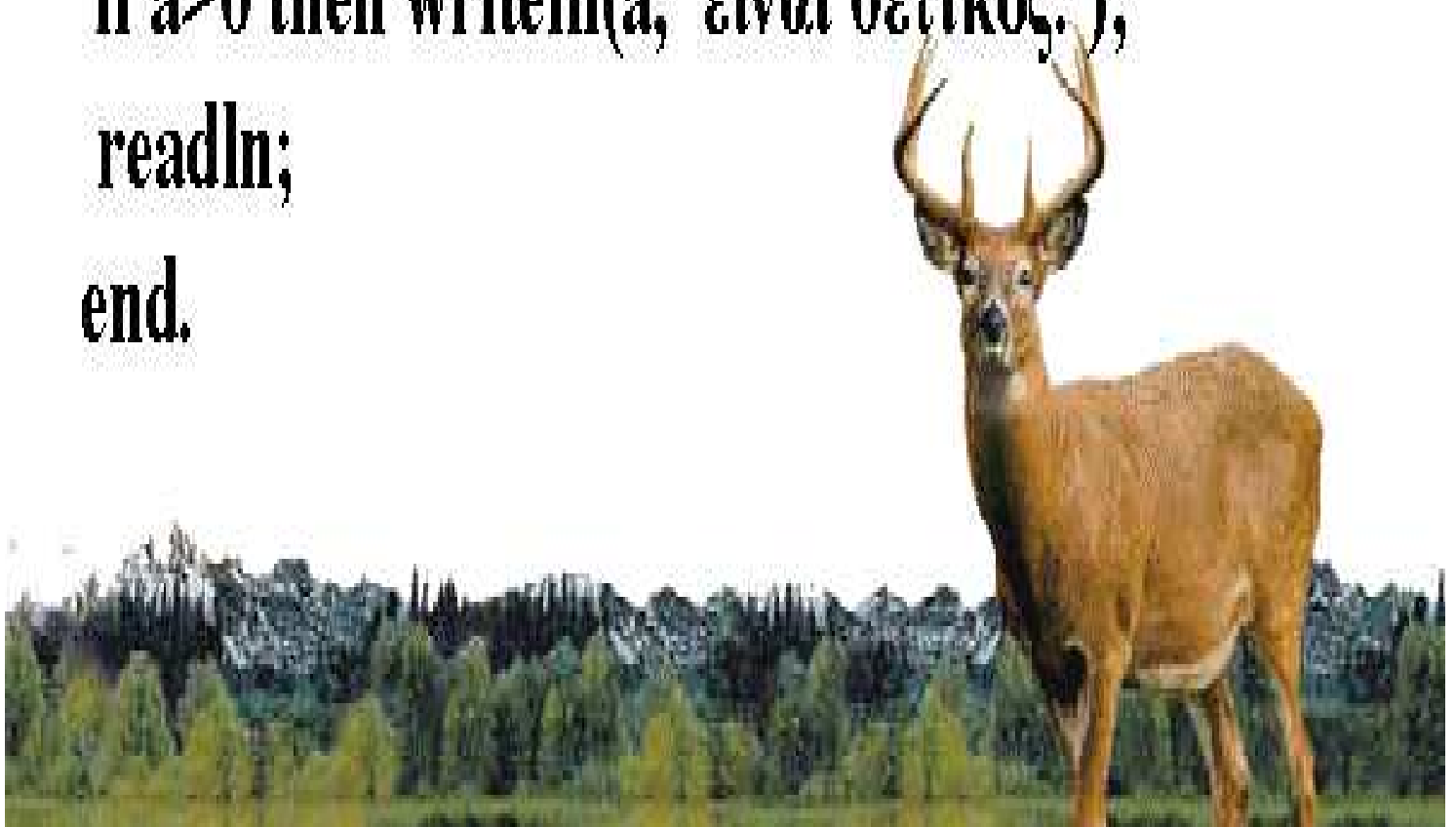
```
  clrscr;
```

```
  readln(a);
```

```
  if a>0 then writeln(a,' είναι θετικός.');
```

```
  readln;
```

```
end.
```





# pascal : if ... then ... else

```
Program Arithmos1a;
```

```
uses crt;
```

```
var a:integer;
```

```
begin
```

```
  clrscr;
```

```
  readln(a);
```

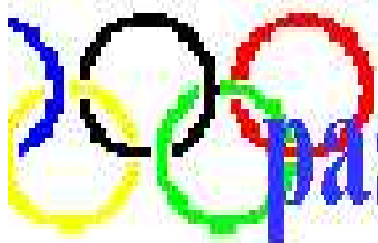
```
  if a>0 then writeln(a, ' θετικός αριθμός.')
```

```
    else writeln(a, ' αρνητικός αριθμός.');
```

```
  readln;
```

```
end.
```





# pascal : if ... then ... else

```
Program sygrisi1;
```

```
uses crt;
```

```
var a,b:integer;
```

```
Begin
```

```
  clrscr;
```

```
  readln(a);
```

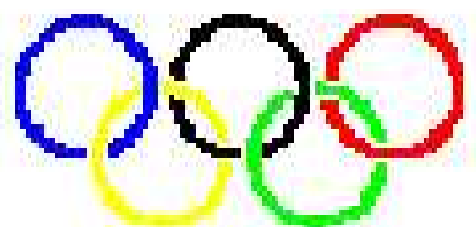
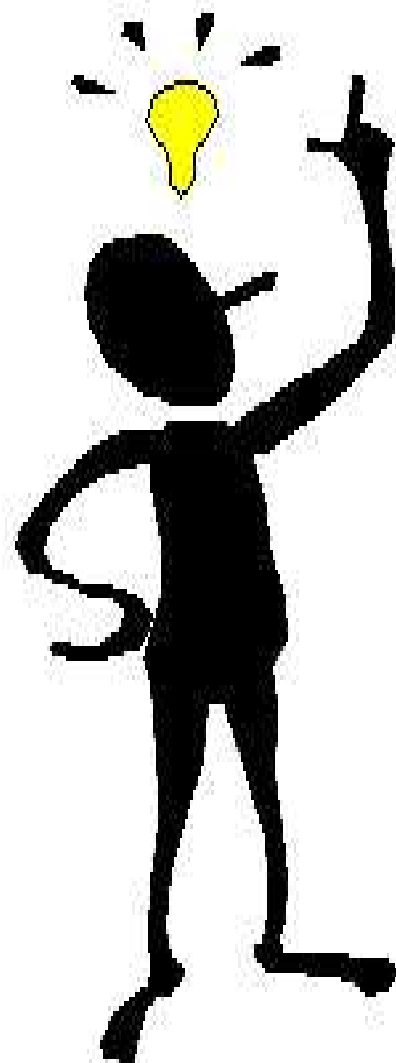
```
  readln(b);
```

```
  if a>b then writeln(a,' είναι > του ',b)
```

```
    else writeln(b,' είναι > του ',a);
```

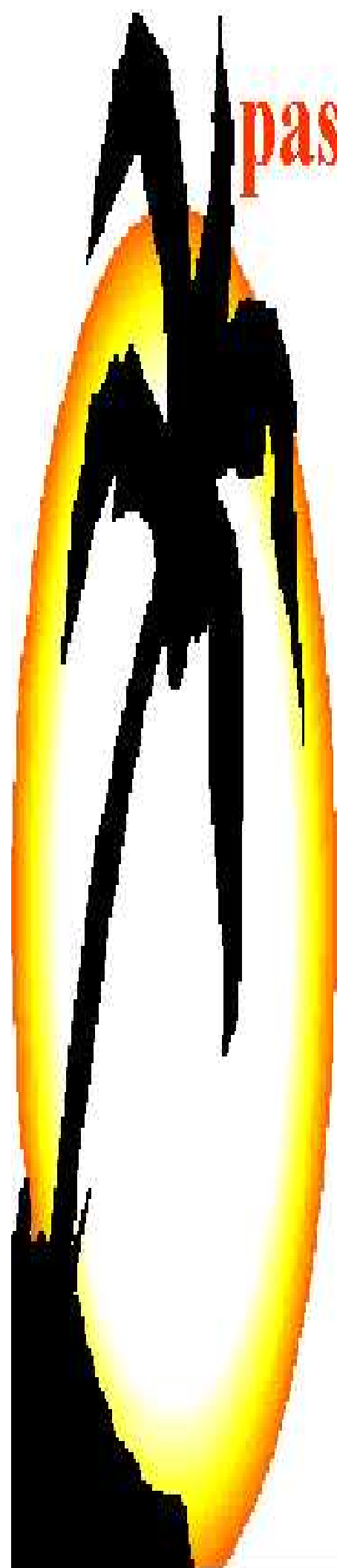
```
  readln;
```

```
end.
```



# pascal : if ... then ... else

```
Program dieres1;  
uses crt;  
var a,b:integer;  
begin  
  clrscr;  
  readln(a);  
  b:=a mod 2;  
  if b=0 then writeln('vai')  
    else writeln('oxi');  
  Readln;  
End.
```



# pascal : if ... then ... else

```
Program dieresi2;  
uses crt;  
var a,b,c:integer;  
begin  
  clrscr;  
  writeln('δυνατότητα διαίρεσης;');  
  write('δώσε αριθμό a= ');  
  readln(a);  
  write('δώσε αριθμό b= ');  
  readln(b);  
  c:=a mod b;  
  if c=0 then writeln(a,' διαιρείτε δια ',b)  
    else writeln(a,' δεν διαιρείτε ',b);  
end.
```



# pascal : if ... then ... else

- program if1;
- var a,b,c,max,fylaxe:integer;
- begin
- readln (a , b , c);
- if a>=b then fylaxe:=a
- else fylaxe:=b;
- if fylaxe >= c then max:=fylaxe
- else max:=c;
- writeln ('μεγαλύτερος ο ',max);
- end.

# pascal : if ... then ... else

- program if1;
- var ilikia:integer;
- begin
- write ('δώσε ηλικία σου :');
- readln (ilikia);
- if ((ilikia>=18) and (ilikia<=50)) then
- writeln ('κατάλληλος για στρατιώτης')
- else
- writeln ('ακατάλληλος για τον στρατό');
- end.



# pascal : if ... then ... else

```
Program auto;  
uses crt;  
var skopos:string;  
begin  
  clrscr;  
  write('Που θέλεις να πας? ');  
  readln(skopos);  
  writeln;  
  writeln;  
  if skopos='INA' then  
    writeln('ωραία - πάμε!') else writeln('ατύχησες!');  
  readln;  
end.
```



pascal : while ... do

while συνθήκη do πρόταση

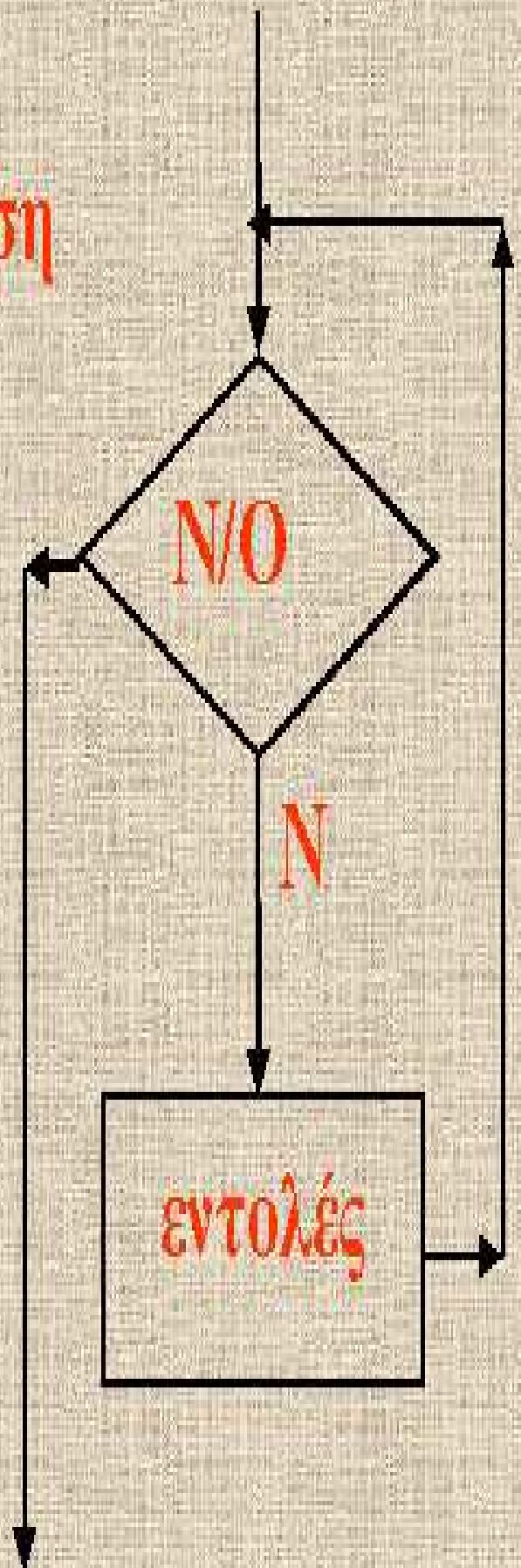
ή

while λογική συνθήκη do

begin

..... (εντολές)

end;





# pascal : while ... do

```
Program propedia_9;  
Var  
ari, polapla : Integer;  
Begin  
    ari := 1;  
    While ari < 11 Do  
        Begin  
            polapla := 9 * ari;  
            Writeln (' 9 * ', ari, ' = ', polapla);  
            ari := ari + 1;  
        End;  
    End;  
End.
```

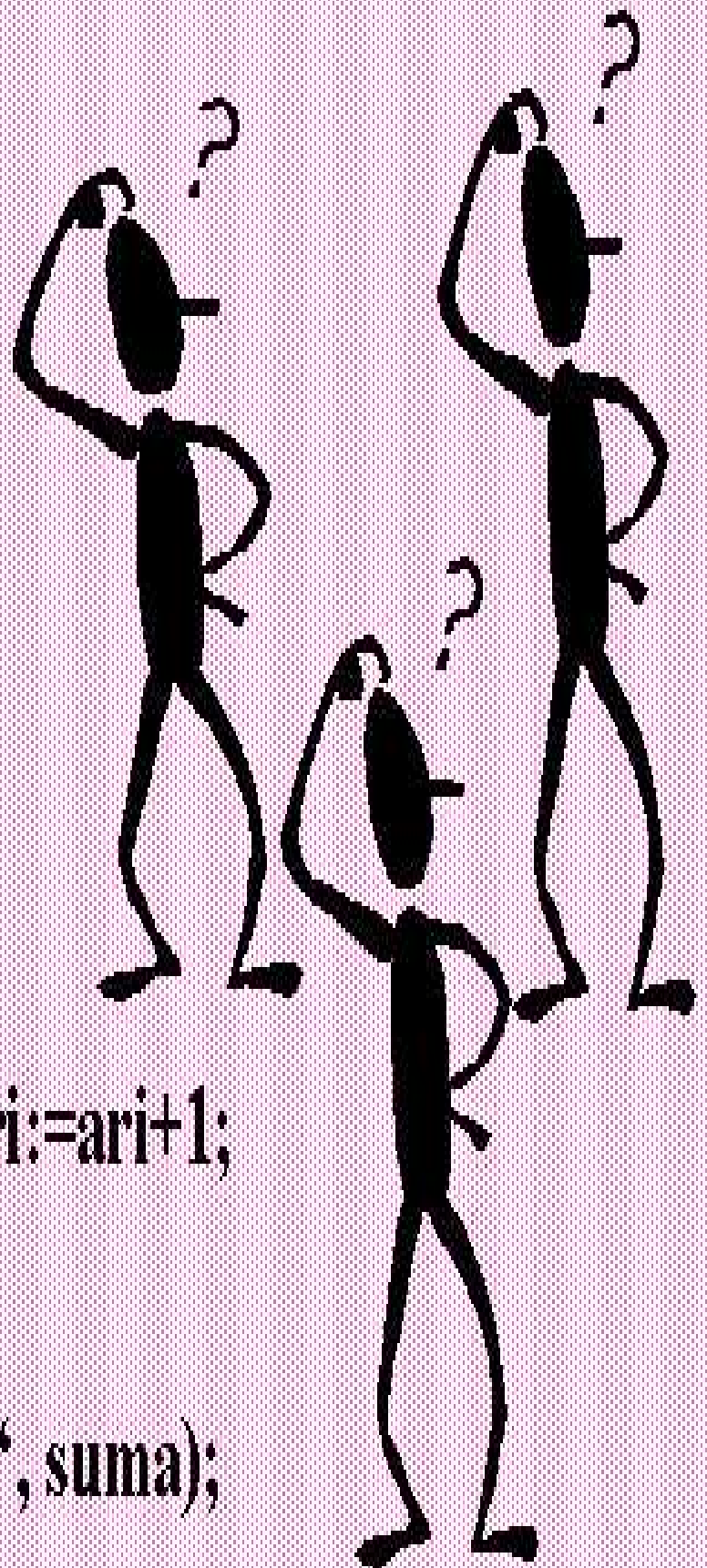


# pascal : while ... do

- program while1;
- var suma,ari:integer;
- begin
- suma:=0; ari:=20;
- while ari>0 do
- begin
- suma:=suma+ari; ari:=ari-1;
- end;
- writeln ('άθροισμα = ', suma);
- end.

# pascal : while ... do

- program while1;
- var suma,ari:integer;
- begin
- suma:=0; ari:=1;
- while ari>20 do
- begin
- suma:=suma+ari; ari:=ari+1;
- end;
- writeln ('άθροισμα = ', suma);
- end.



# pascal : while ... do

- program while1;
- var ginomeno,ari:integer;
- begin
- ginomeno:=1; ari:=20;
- while ari>0 do
- begin
- ginomeno:=ginomeno\*ari; ari:=ari-1;
- end;
- writeln ('γινόμενο = ', ginomeno);
- end.

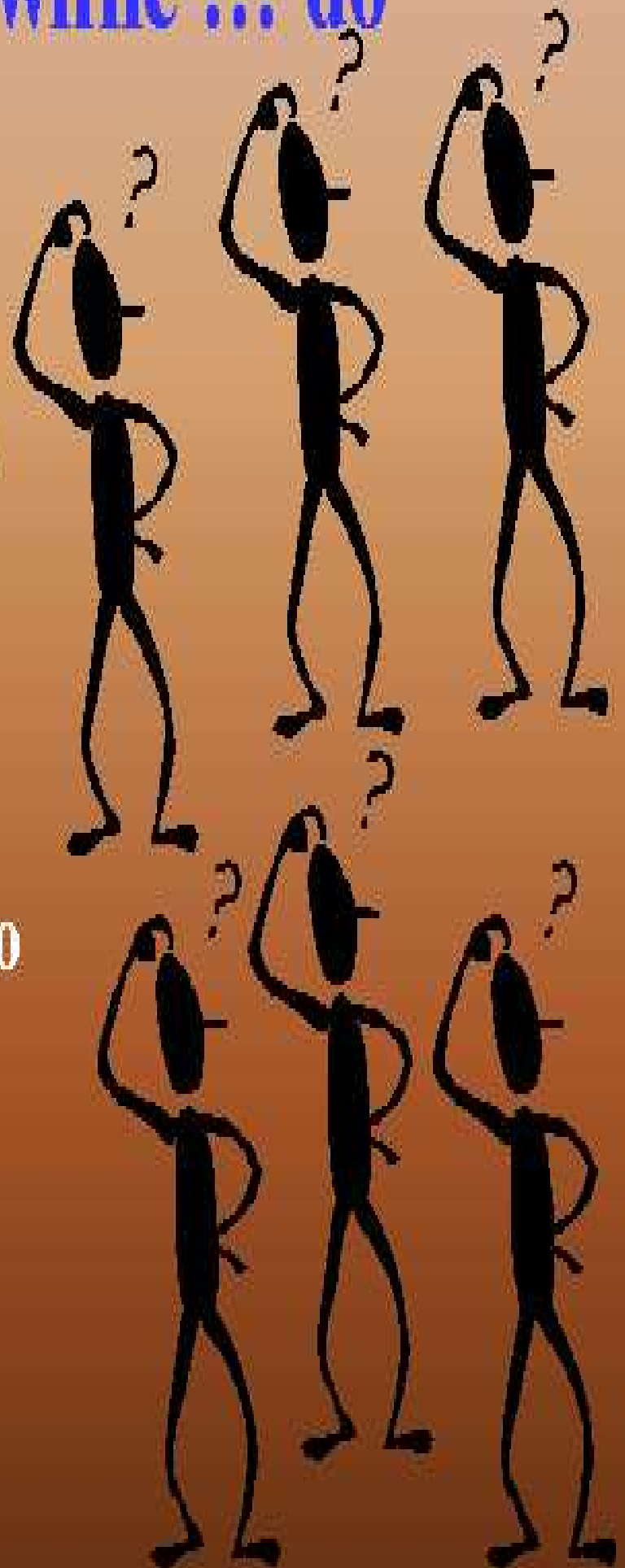
# pascal : while ... do

- program while1;
- var ginomeno, ari: integer;
- begin
- ginomeno:=1; ari:=1;
- while ari>20 do
- begin
- ginomeno:=ginomeno\*ari; ari:=ari+1;
- end;
- writeln ('γινόμενο = ', ginomeno);
- end.



# pascal : while ... do

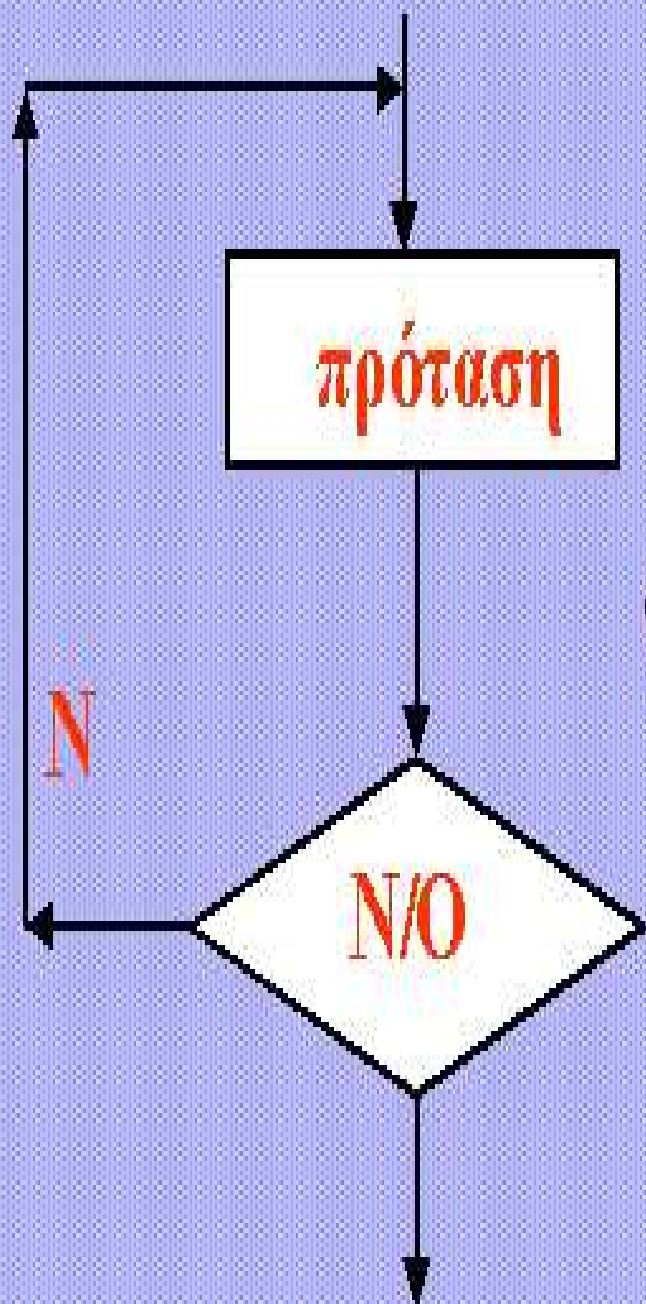
```
Program while2;  
uses crt;  
var arithmos:integer;  
begin  
  clrscr;  
  arithmos:=1;  
  while arithmos<>0 do  
    readln(arithmos);  
    writeln('μόντεψε!');  
    readln;  
  end.
```



# pascal : repeat ... until

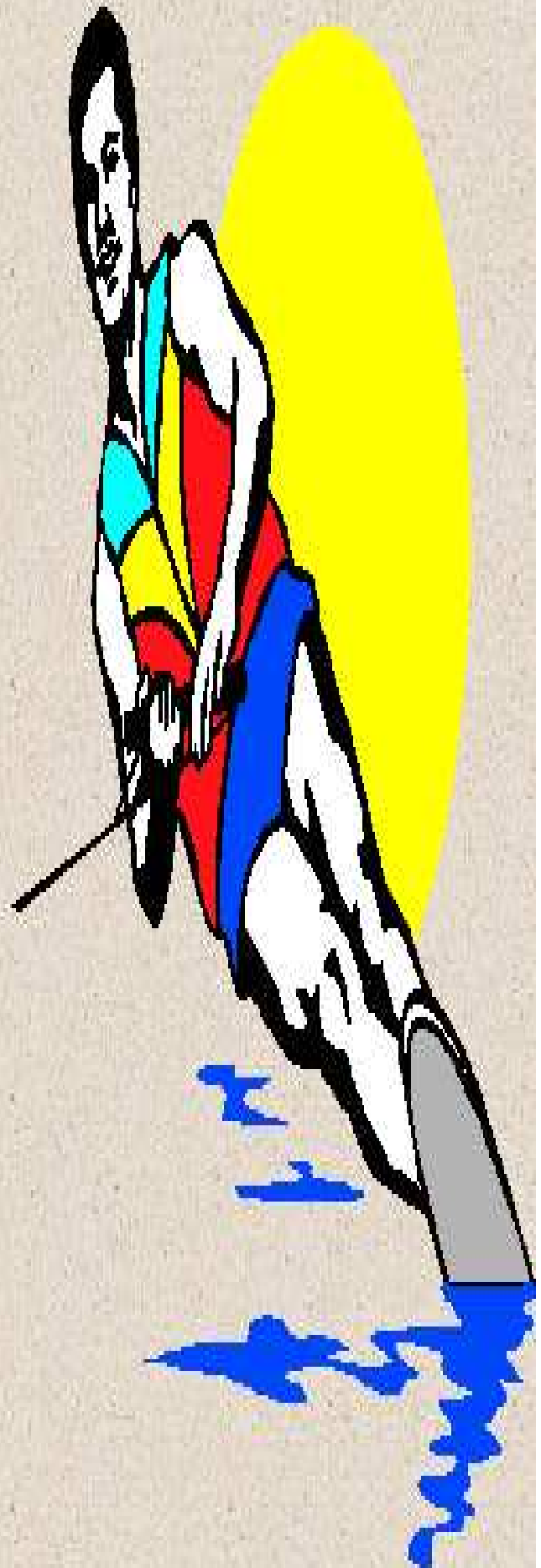
γενική μορφή :

repeat ..πρόταση until συνθήκη...



# pascal : repeat ... until

```
Program repeat1;  
uses crt;  
var onoma:string;  
begin  
  Clrscr;  
  Repeat  
    write('βρες το όνομά μου! ');  
    readln(onoma);  
  until onoma='Ram';  
  writeln;  
  writeln('το πέτυχες!!!');  
  readln;  
end.
```





# pascal : repeat ... until

```
Program propedia_7;
```

```
Var
```

```
ari, polapla : Integer;
```

```
Begin
```

```
    ari := 1;
```

```
    Repeat
```

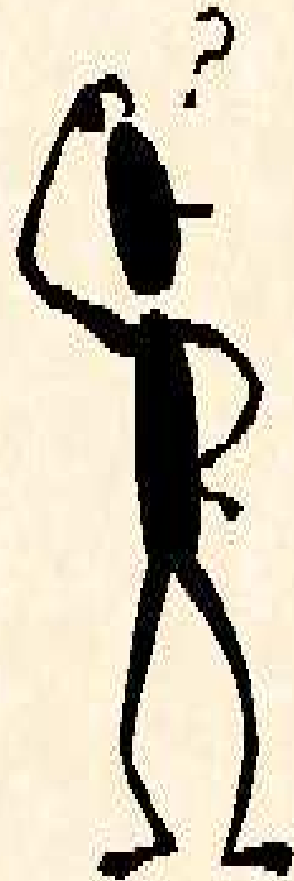
```
        polapla := 7 * ari;
```

```
        Writeln (' 7 * ', ari, ' = ', polapla);
```

```
        ari := ari + 1;
```

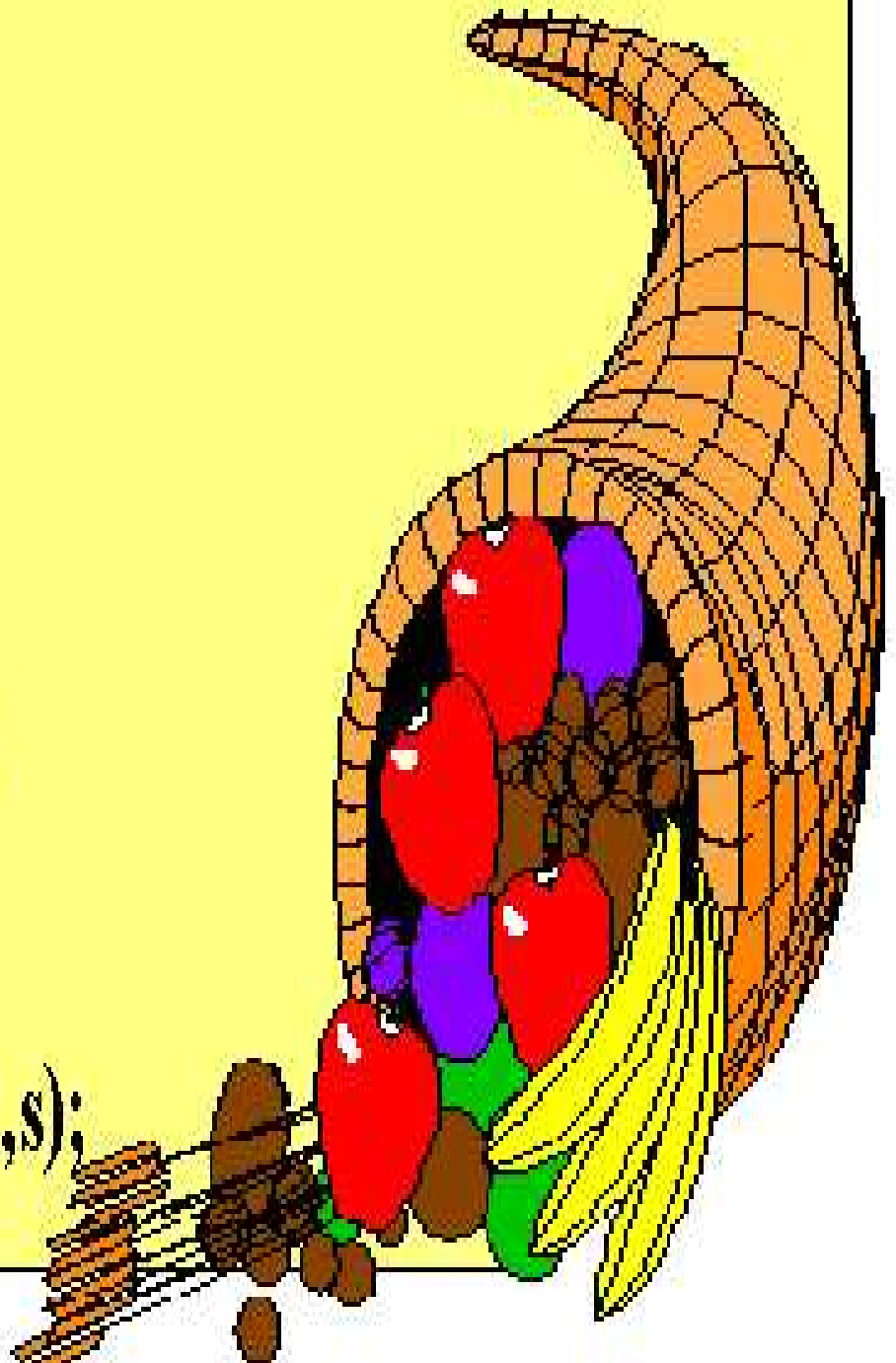
```
    Until ari = 11;
```

```
End.
```



# pascal : repeat ... until

- program repeat2;
- var s,a:real;
- begin
- s:=0;
- read (a);
- repeat
- s:=s+a; read(a);
- until a<0;
- writeln ('suma = ',s);
- end.



# pascal : repeat kai while

repeat  $\Leftrightarrow$  while

repeat

sum a:=0;

j:=0;

readln(n);

repeat

readln (ari);

sum := sum+ari;

j:=j+1;

until j >= n

while

sum:=0;

j:=0;

readln (n);

readln (ari);

sum := sum+ari;

j:=j+1;

while j<n do

begin

readln (ari);

sum :=sum+ari;

j:=j+1;

end;

# pascal : while dan repeat

while  $\Leftrightarrow$  repeat

```
Program propedia_9;  
Var  
  ari, polapla : Integer;  
Begin  
  ari := 1;  
  While ari < 11 Do  
  Begin  
    polapla := 9 * ari;  
    Writeln (' 9 * ', ari, ' = ', polapla);  
    ari := ari + 1;  
  End;  
End.
```

```
Program propedia_7;  
Var  
  ari, polapla : Integer;  
Begin  
  ari := 1;  
  Repeat  
    polapla := 7 * ari;  
    Writeln (' 7 * ', ari, ' = ', polapla);  
    ari := ari + 1;  
  Until ari = 11;  
End.
```

# pascal : case ...of

```
program case1;
```

```
var a,b,c,max,fylaxe:real;
```

```
begin
```

```
readln (a , b , c);
```

```
case a>=b    of      true: fylaxe:=a  
                  false fylaxe:=b;
```

```
end;
```

```
case fylaxe > c    of      true:  max:=fylaxe  
                  false:  max:=c;
```

```
end;
```

```
writeln ('μεγαλύτερος ο ',max);
```

```
end.
```

# pascal : case ...of

- program case2;
- var bathmos:integer;    krisi:char;
- begin
- writeln ('δώσε βαθμό :');
- readln (bathmos);
- case bathmos of
- 20 : krisi:='A';
- 19,18,17 : krisi:='B';    end;
- writeln ('ο βαθμός :', bathmos, '= ' , krisi );
- end.



# pascal : case ...of

- program case3;
- var apantisi:integer;
- begin
- writeln('ερώτηση: το μπατ είναι :');
- writeln ('1    ένας χαρακτήρας');
- writeln ('2    4 μπατ ');
- readln (apantisi);
- case apantisi of
- 2 : writel ('λάθος');
- 1: writeln ('σωστά');    end;    end.



# pascal : case ...of

- program case4;
- var minas :integer;
- begin
- writeln (‘δώσε αριθμό από 1 -12 ‘); readln (minas);
- case minas of
- 1,2,12 : writeln (‘ Χειμώνας ’);
- 3,4,5 : writeln (‘ Άνοιξη ’);
- 6,7,8: writeln (‘ Καλοκαίρι ’);
- 9,10,11: writeln (‘ Φθινόπωρο ’);
- end; end.



# pascal :

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