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Program halmaz;
Uses Crt;
Const n=30;
Type thalmaz=Array[1..n] of integer;
Var a,b,u,m,k:thalmaz;
    adb,bdb,udb,mdb,kdb:integer;
    f,g:text;

Procedure init;
Begin
    Assign(f,'ahalmaz.txt');
    Assign(g,'bhalmaz.txt');
End;

Procedure beolvasas(var a,b:thalmaz; var adb,bdb:integer);
Begin
    Reset(f);
    Reset(g);

    adb:=0;
    bdb:=0;

    While not(eof(f)) do
    Begin
        adb:=adb+1;
        ReadLn(f,a[adb]);
    End;

    While not(eof(g)) do
    Begin
        bdb:=bdb+1;
        ReadLn(g,b[bdb]);
    End;

    Close(g);
    Close(f);
End;

Procedure kiiras(h:thalmaz; hdb:integer);
var i:integer;
Begin
    For i:=1 to hdb do
    Begin
        Write(h[i], ' ');
    End;
End;

Procedure unio(a,b:thalmaz; adb,bdb:integer; var u:thalmaz; var
udb:integer);
var i,j:integer;
Begin

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udb:=adb;
For i:=1 to adb do
Begin
  u[i]:=a[i];
End;
For i:=1 to bdb do
Begin
  j:=1;
  While (u[j]<>b[i]) and (j<=adb) do
  Begin
    j:=j+1;
  End;
  If j>adb then Begin
    udb:=udb+1;
    u[udb]:=b[i];
  End;
End;
End;

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Procedure metzet(a,b:thalmaz;adb,bdb:integer; var m:thalmaz; var
mdb:integer);
var i,j:integer;
Begin
  mdb:=0;
  For i:=1 to bdb do
  Begin
    j:=1;
    While (a[j]<>b[i]) and (j<=adb) do
    Begin
      j:=j+1;
    End;
    If j<=adb then Begin
      mdb:=mdb+1;
      m[mdb]:=b[i];
    End;
  End;
End;

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Procedure kulonbseg(a,b:thalmaz;adb,bdb:integer; var k:thalmaz; var
kdb:integer);
var i,j:integer;
Begin
  kdb:=0;
  For i:=1 to adb do
  Begin
    j:=1;
    While (a[i]<>b[j]) and (j<=bdb) do
    Begin
      j:=j+1;
    End;
    If j>bdb then Begin
      kdb:=kdb+1;
    End;
  End;
End;

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                k[kdb]:=a[i];
            End;
        End;
    End;

BEGIN
    ClrScr;

        init;
        beolvasas(a,b,adb,bdb);

        Write('Az a halmaz elemei: ');
        kiiras(a,adb);

        WriteLn;WriteLn;
        Write('A b halmaz elemei: ');
        kiiras(b,bdb);

        unio(a,b,adb,bdb,u,udb);

        WriteLn;WriteLn;
        Write('Az uniojuk: ');
        kiiras(u,udb);

        metszet(a,b,adb,bdb,m,mdb);

        WriteLn;WriteLn;
        Write('A metszet k: ');
        kiiras(m,mdb);

        kulonbseg(a,b,adb,bdb,k,kdb);

        WriteLn;WriteLn;
        Write('A k, t halmaz k"nbs, ge(a\b): ');
        kiiras(k,kdb);

        kulonbseg(b,a,bdb,adb,k,kdb);

        WriteLn;WriteLn;
        Write('A k, t halmaz k"nbs, ge(b\a): ');
        kiiras(k,kdb);

        ReadLn;
    END.

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