

## 9-11

## 1.

18

```

program Solve_01;
  type TCoord = record
    x,y,z : integer;
  end;
  var n: integer;
      xyz : array of TCoord;
  //
  procedure Init;
  var fin : TextFile; i : integer;
  begin
    AssignFile(fin, 'input.txt'); reset(fin);
    readln(fin,n); SetLength(xyz, n);
    for i := 0 to n-1 do readln(fin, xyz[i].x, xyz[i].y, xyz[i].z);
    CloseFile(fin);
  end;
  //
  procedure Solve;
  var r,max : real; i,j : integer; fout : TextFile;
  begin
    max := 0;
    for i := 0 to n-1 do
      for j := i+1 to n-1 do
        if i <> j then begin
          r := sqrt(sqr(xyz[i].x-xyz[j].x)+sqr(xyz[i].y-xyz[j].y)+
            sqr(xyz[i].z-xyz[j].z));
          if r > max then max := r;
        end;
      end;
    AssignFile(fout, 'output.txt'); rewrite(fout);
    writeln(fout, max:3:3); CloseFile(fout);
  end;
  //
  BEGIN
    Init; Solve;
  END.

```

## 2.

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```

program Solve_02;
  var n : integer; s : string;
      fin : textFile;
  //
  procedure Init;
  begin
    AssignFile(fin, 'input.txt'); reset(fin);
    readln(fin, s); readln(fin, n);
  end;

```

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//                                     (
function compare(s1,s2 : string) : boolean;
  var m1,m2 : array['A'..'Z'] of integer;
      I : integer; j : char;
begin
  //
  for j := 'A' to 'Z' do begin m1[j] := 0; m2[j] := 0; end;
  //
  for i := 1 to length(s1) do inc(m1[s1[i]]);
  for i := 1 to length(s2) do inc(m2[s2[i]]);
  if m1 = m2 then result := true else result := false;
end;
//
procedure Solve;
  var i : integer; fout : TextFile; st : string;
      flag : boolean;
begin
  AssignFile(fout, 'output.txt'); rewrite(fout);
  flag := false;
  for i := 1 to n do begin
    readln(fin, st);
    if compare(s, st) then begin
      flag := true;
      writeln(fout, st); break;
    end;
  end;
  if not flag then writeln(fout, 'NO');
  CloseFile(fout); CloseFile(fin);
end;
//
BEGIN
  Init; Solve;
END.

```

### 3.

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-      :
var code, key : string; n : byte;
//
procedure Init;
  var fin : TextFile; tmp : string;
begin
  Assign(fin, 'input.txt'); reset(fin);
  readln(fin, n);
  //
  for var y := 1 to n do begin
    readln(fin, tmp); code := code + tmp;
  end;
  //
  for var y := 1 to n do begin
    readln(fin, tmp); key := key + tmp;
  end;
  CloseFile(fin);
end;
//
procedure Solve;
  var res: string; fout: TExtFile;
begin
  //
  //
  SetLength(res, n*n);
  for var i := 1 to n*n do begin
    if key[i] in ['0'..'9'] then res[StrToInt(key[i])+1] := code[i];

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    if key[i] in ['A'..'Z'] then res[ord(key[i])-ord('A')+11] := code[i];
end;
AssignFile(fout, 'output.txt'); Rewrite(fout);
writeln(fout, res); CloseFile(fout);
end;
//
BEGIN
  Init; Solve;
END.

```

## 4.

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var n : integer; s : string;
    r,t : array of real;

procedure Init;
  var fin : textFile; i : integer; tmp : string;
begin
  assignfile(fin, 'input.txt'); reset(fin);
  readln(fin, n); readln(fin, s);
  setlength(r, n+1);
  for i := 1 to n do begin
    readln(fin, tmp);
    r[StrToInt(tmp[2]+tmp[3])] := StrToFloat(copy(tmp, 5, length(tmp)-3));
  end;
  CloseFile(fin);
end;
//
function rp(a,b : string) : real;
  var r1, r2 : real;
begin
  if a[1] = 'R' then r1 := r[StrToInt(copy(a,2,2))]
  else r1 := t[StrToInt(copy(a,2,2))];
  if b[1] = 'R' then r2 := r[StrToInt(copy(b,2,2))]
  else r2 := t[StrToInt(copy(b,2,2))];
  rp := r1*r2/(r1+r2);
end;
//
procedure Solve;
  var k,z : integer; tz,tmp,tmp1,tmp2 : string;
      rall,r1 : real; fout : TextFile;
begin
  setlength(t, 100);
  //
  k := pos('=',s);
  z := 0; //
  if k<>0 then repeat
    //
    tmp := copy(s,k-3,7);
    //
    tmp1 := copy(tmp,1,3); tmp2 := copy(tmp,5,3);
    //
    delete(s,k-3,7);
    //
    if z < 10 then tz := '0'+IntToStr(z) else tz := IntToStr(z);
    s := copy(s,1,k-4)+'T'+tz+copy(s,k-3,length(s)-k+5);
    //
    t[z] := rp(tmp1,tmp2);
    //
    inc(z);
    //
  k := pos('=',s);

```

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until k = 0;
//
rall := 0; k := pos('-',s);
while k <> 0 do begin
  if s[1] = 'R' then r1 := r[StrToInt(copy(s,2,2))]
    else r1 := t[StrToInt(copy(s,2,2))];
  rall := rall + r1;
  delete(s,1,4);
  k := pos('-',s);
end;
if s[1] = 'R' then r1 := r[StrToInt(copy(s,2,2))]
  else r1 := t[StrToInt(copy(s,2,2))];
rall := rall + r1;
AssignFile(fout, 'output.txt'); rewrite(fout);
writeln(fout, rall:0:3); CloseFile(fout);
end;
//
BEGIN
  Init; Solve;
END.

```

5.

2

:

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Program Solve_5;
var fout : TextFile;
BEGIN
AssignFile(fout, 'output.txt'); reWrite(fout);
write(fout, 'VALENTINA VLADIMIROVNA TERESHKOVA');
CloseFile(fout);
END.

```