

Program task_3;

```
const
  n=6;
  m=5;
type
graph=array [1..n,1..n] of Byte;
link=^zap;
zap=record
  inf:integer;
  next:link
end;
mas=array[1..n] of integer;
var
  g:graph;
  lm:mas;
  c,v:integer;
procedure makeGraph (var g:graph);
  var
    u,v,i:integer;
  begin
    for i:=1 to m do
      begin
        writeln('mist- ');
        readln(u,v);
        g[u,v]:=1;
        g[v,u]:=1
      end
    end;
procedure addtoqueu(var l,r:link; x:integer);
  var p:link;
  begin
    if (l=nil) and (r=nil) then begin
      new(l);
      r:=l;
      l^.inf:=x;
      l^.next:=nil;
    end
    else begin
      new(p);
      p^.inf:=x;
      p^.next:=nil;
      l^.next:=p;
      l:=p
    end
  end;
end;
```

procedure searchGraph(v0:integer;g:graph; var m:mas);

```
var
  l,r:link;
  i:integer;
begin
  for i:=1 to n do m[i]:=-1;
  m[v0]:=0;
  l:=nil;
  r:=nil;
  addtoqueue(l,r,v0);
  while r<>nil do begin
    for i:=1 to n do
      if (g[r^.inf,i]=1) and (m[i]=-1) then
        begin
          m[i]:=m[r^.inf]+1;
          addtoqueue(l,r,i)
        end;
    r:=r^.next
  end
end;
```

procedure D_sort(g:graph; var l:mas);

```
var
  i,v,k,j:integer;
  m:mas;
begin
  for i:=1 to n do
    begin
      searchGraph(i,g,m);
      k:=m[1];
      for j:=2 to n do
        if m[j]>k then
          k:=m[j];
      l[i]:=k
    end
  end;
```

```
procedure find (l:mas;var k,c:integer);
```

```
  var
```

```
    i:integer;
```

```
  begin
```

```
    k:= l[1];
```

```
    c:=1;
```

```
    for i:=2 to n do
```

```
      if l[i]< k then begin
```

```
        k:=l[i];
```

```
        c:=i
```

```
      end
```

```
    end;
```

```
begin
```

```
  makeGraph(g);
```

```
  D_sort(g,lm);
```

```
  find(lm,v,c);
```

```
  writeln(c,' - вершина Вартість - ',v*10,' грн')
```

```
end.
```