```
In[•]:= m = 5; (*число коммивояжеров*)
        p = 10;(*число клиентов на пути*)
        n = p; (*число клиентов*)
        t = Partition[Table[RandomInteger[{1, 20}], (n + 1) * (n + 1)], n + 1];
        (*время,которое требуется, чтобы доехать из i в j*)
        Table[t[[i]][[i]] = 0, {i, n + 1}];
        timewindow = Table[a = RandomInteger[{1, 10}];
            {a, a + RandomInteger[{1, 50}]}, n];(*временные окна*)
        a = #[[1]] & /@ timewindow;
        b = #[[2]] & /@ timewindow;

In[•]:= V = Range[0, n];(*склад  и n клиентов, вершины графа*)

In[•]:= A = Permutations[V, {2}];(*дуги графа*)
        cij = RandomReal[{0, 1}, Length@A];(*веса дуг*)

In[•]:= varsX = x[#[[1]], #[[2]]] & /@ A;
        varsU = u[#] & /@ V[[2 ;;]];
        vars = Join[varsX, varsU];

In[•]:= objFun = cij.varsX;
        c = Last@CoefficientArrays[objFun, vars];

In[•]:= con1 = Total[Partition[varsX, n][[2 ;;]], {2}];
        rhs1 = ConstantArray[{1, 0}, n];

In[•]:= con2 = Total[Table[Cases[DeleteCases[varsX, x[_, 0]], x[_, i]], {i, n}], {2}];
        rhs2 = ConstantArray[{1, 0}, n];

In[•]:= con3 = {Total[Cases[varsX, x[0, _]]]};
        rhs3 = {{m, 0}};

In[•]:= con4 = {Total[Cases[varsX, x[_, 0]]]};
        rhs4 = {{m, 0}};

In[•]:= con5 = Flatten[
            #[[1]] - #[[2]] + p * Cases[varsX, x[#[[1]][[1]], #[[2]][[1]]]] & /@ Permutations[varsU, {2}], 2];
        rhs5 = ConstantArray[{p - 1, -1}, n! / (n - 2)!];

In[•]:= con6 = varsU;
        rhs6 = {#, -1} & /@ b;

In[•]:= con7 = varsU;
        rhs7 = {#, 1} & /@ a;

In[•]:= con8 = varsU - t[[1]][[2 ;;]] * Partition[varsX, n][[1]];
        rhs8 = ConstantArray[{0, 1}, n];

In[•]:= dopX = DeleteCases[Flatten[Partition[varsX, n][[2 ;;]]], x[_, 0]];
        dopxx = Cases[dopX, x[#[[1]], _]] & /@ varsU;
        dopt = Table[t[[2 ;;, 2 ;;]][[#[[j]][[1]]]][[#[[j]][[2]]]], {j, n - 1}] & /@ dopxx;
        M = 10000;
```

In[ ]:=
```
con9 = Flatten[
    #[[1]] - #[[2]] + M * Cases[varsX, x[#[[1]][[1]], #[[2]][[1]]]] & /@ Permutations[varsU, {2}]];
rhs9 = {#, -1} & /@ Flatten[-dopt + M];
```

In[ ]:=
```
lu = Join[ConstantArray[{0, 1}, (n + 1)! / ((n + 1) - 2)!], ConstantArray[{0, Infinity}, n]];
domain = Join[ConstantArray[Integers, (n + 1)! / ((n + 1) - 2)!], ConstantArray[Reals, n]];
matr =
  Last@CoefficientArrays[Join[con1, con2, con3, con4, con5, con6, con7, con8, con9], vars];
bb = Join[rhs1, rhs2, rhs3, rhs4, rhs5, rhs6, rhs7, rhs8, rhs9];
```

In[ ]:=
```
sol = LinearProgramming[c, matr, bb, lu, domain]
```

Out[ ]=
```
{0, 0, 1, 1, 0, 1, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0,
 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0,
 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 12., 14., 13., 8., 13., 12., 8., 12., 17., 17.}
```

In[ ]:=
```
vert = Cases[sol[[ ;; (n + 1)! / ((n + 1) - 2)!]] * varsX, Except[0]];
Graph[#[[1]] ↔ #[[2]] & /@ vert, VertexLabels → "Name"]
```

Out[ ]=