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"The following command calls the Combinatorica
  package included in Mathematica 5.0 and more recent versions";

<< DiscreteMath`Combinatorica`

"Using the following command the correlation
  matrix is imported from a txt format file: "rho.txt".
  With the command Directory[] you can see the current working directory.
  The rho.txt file should be there. The command SetDirectory["
  path "] sets the working directory.";

rho = Import["rho.txt", "Table"];

n = Dimensions[rho][[1]]

"The ordered link list Sord (rholistSort) can be
  constructed by the following list of instructions. The list
  is sorted in descending order of correlation coefficients.";

rholist = {}

Do[rholist = Append[rholist, {rho[[i, j]], i, j}], {i, 1, n - 1}, {j, i + 1, n}]

rholistSort = Sort[rholist];

rholistSort = Reverse[rholistSort];

dd = Dimensions[rholistSort];

"The following set of instructions is the kernel of the construction algorithm
  of the MST. The output matrix Aij is the adjacency matrix of the MST.";

Aij = Table[0, {i, 1, n}, {j, 1, n}];

control = 0;

For[t = 1, t ≤ dd[[1]],
  t++, If[control ≤ n - 2,
    {i = rholistSort[[t, 2]],
      j = rholistSort[[t, 3]],
      Aij[[i, j]] = 1,
      Aij[[j, i]] = 1,
      If[AcyclicQ[FromAdjacencyMatrix[Aij]] == False,
        {Aij[[i, j]] = 0,
          Aij[[j, i]] = 0}, control = control + 1]
    }]]

"Aij can be exported in txt format with following instruction.";

Export["adjMST.txt", Aij, "Table"]

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