class Program

{

static void Main(string[] args)

{

Console.Write("Введите количество вершин в графе: ");

int n = Convert.ToInt32 (Console.ReadLine());

double[,] mat = new double[n, n];

int[] V = new int[n];

List<double> ostov = new List<double>();

List<int> U = [0];

double ans = 0;

List<int> v = new List<int>();

List<int> u = new List<int>();

for (int i = 0; i < n; i++)

{

V[i] = i+1;

for (int j = 0; j < n; j++)

{

if (i == j)

{

mat[i, j] = double.PositiveInfinity;

}

else

{

Console.WriteLine("Введите вес ребра " + (i + 1) + " - " + (j + 1) + ":");

mat[i, j] = Convert.ToInt32(Console.ReadLine());

}

}

}

Console.Clear();

while (U.Count != V.Length)

{

double rmin = double.PositiveInfinity;

int noj = 0;

int noi = 0;

for (int i = 0; i < U.Count; i++)

{

for (int j = 0; j < n; j++)

{

if (U.Contains(j))

{

continue;

}

else

{

if (mat[U[i], j] < rmin && mat[U[i], j] != 0)

{

rmin = mat[U[i], j];

noi = U[i];

noj = j;

}

}

}

}

mat[noi, noj] = double.PositiveInfinity;

mat[noj, noi] = double.PositiveInfinity;

v.Add(noi);

u.Add(noj);

U.Add(noj);

ostov.Add(rmin);

}

for (int i = 0; i<ostov.Count; i++)

{

ans += ostov[i];

}

Console.WriteLine("Длина остовного дерева: " + ans);

Console.WriteLine("Ребро \tВес");

for (int i = 0; i < ostov.Count; i++)

{

Console.WriteLine((v[i] + 1) + " - " + (u[i] + 1) + "\t" + ostov[i]);

}

}

}