Summary of the functions:

➢ *[output_args] = StartFunctionWM(n,option)*

This function is the main function, including three options, each of which calls a different function.

➢ *[edge] = GenerateWM(m)*

This function is used to randomly generate WM instances. Our 100 WM instances are generated using this function. Since random instances have already been generated, you can directly access them in the data folder.

➢ *function [xvector,optimalvalue] = SolveWM(m,edge)*

This function constructs a network for the WM problem and calculates its optimal solution.

➢ *function outmate = PairIndex(inedges, inmaxcardinality)*

Function?

➢ *function [adjpernum,adjpervalue,finaladj,edgefinal,xinverse] = InvCostAdjWM(m,dataread)*

This function is used to solve the inverse WM game, where [l, u] = [v*, v*].

➢ *function [adjpernum,adjpervalue,finaladj,edgefinal,xinverse] = InvCostAdjWMRange(m,dataread)*

This function is used to solve the inverse WM game, where [l, u] = [0.95v*, 1.05v*].

➢ *function [output_args] = checkresult*

This function is used to compute statistical metrics for the results of 100 instances.

Code instructions:

To run the code smoothly and correctly, please set the variables in the file "WMG\src\StartfunctionWM.m" as described below. Matlab 2016 is recommended.

1. Set parameters n

n is the number of nodes.

2. Set parameter option

option = 1 is to generate and save random instances and compute the optimal solution;
option = 2 is to use generated instances to compute CIOP for WM;
option = 3 is to use generated instances to compute CIOP for WM with range.