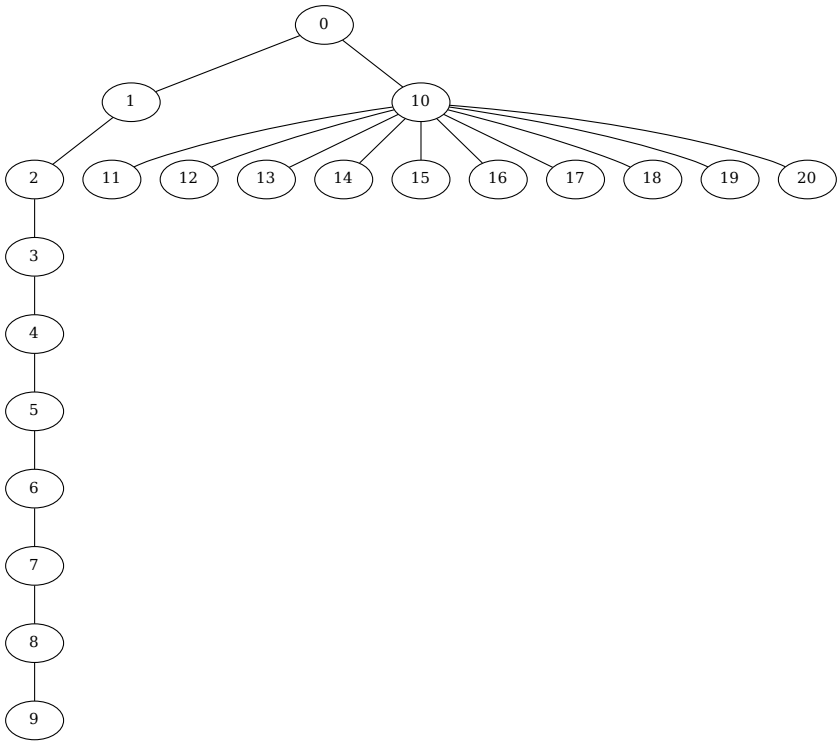
Report of running the connected cut algorithm

This is an automatically generated report which runs the algorithm on given graphs. There is a graph, its integer linear program solution, linear program solution, enhancement of the linear program and approximation result.

Graph	ILP	LP	Enhancement	Aproximation
comet	2	1.6363636363636362e+00	2	10
comet2	4	4	4	4
clique	30	9.9999999999999982e+00	9.9999999999999982e+00	30
star	34	34	34	34
path	4	4	4	4
tree	12	10.5	12	12

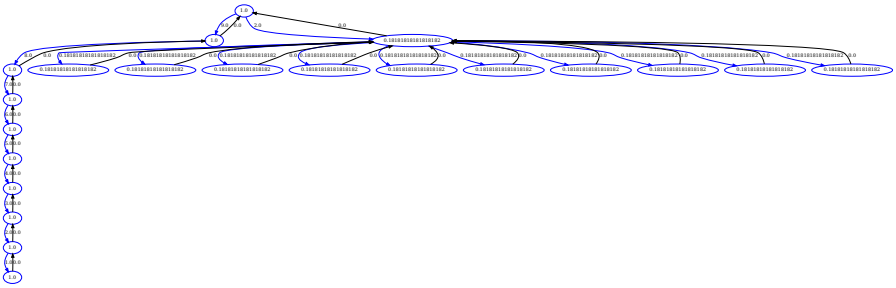
comet

The source vertex is $s = 0$ and capacity is $k = 12$.

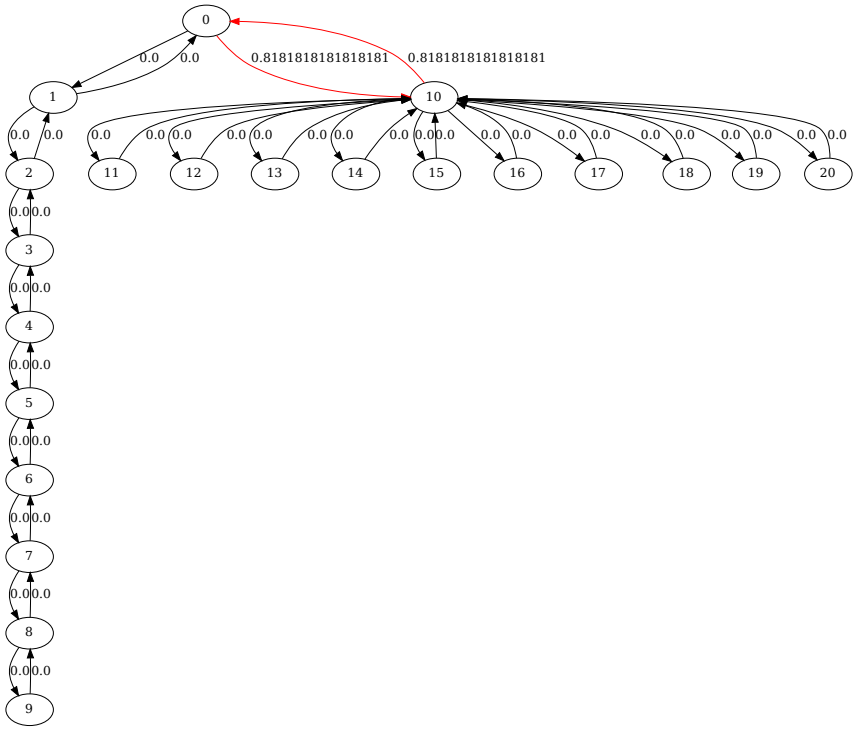


Linear program

Flow

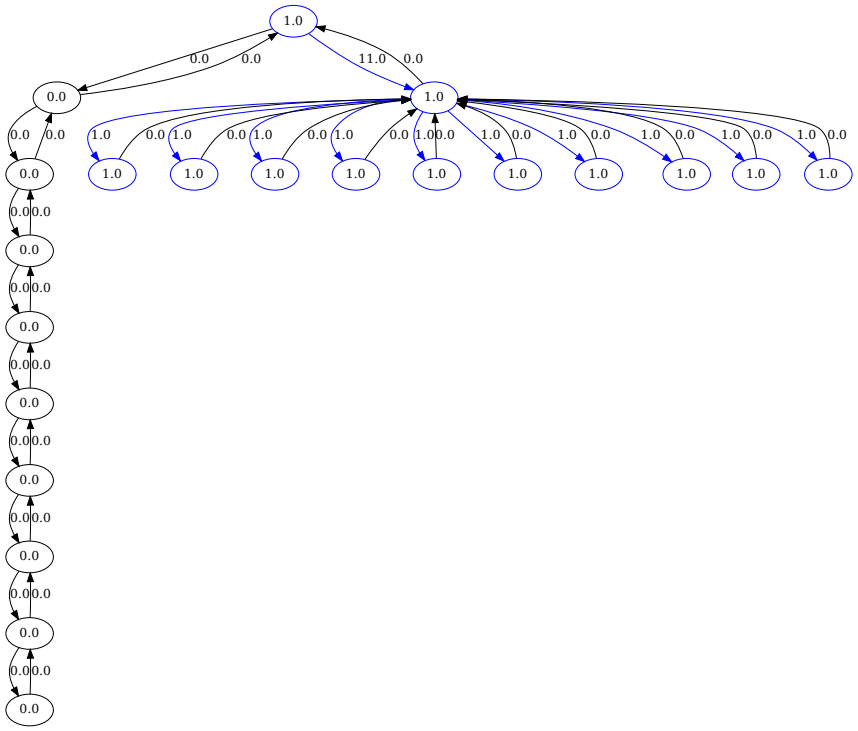


Cut

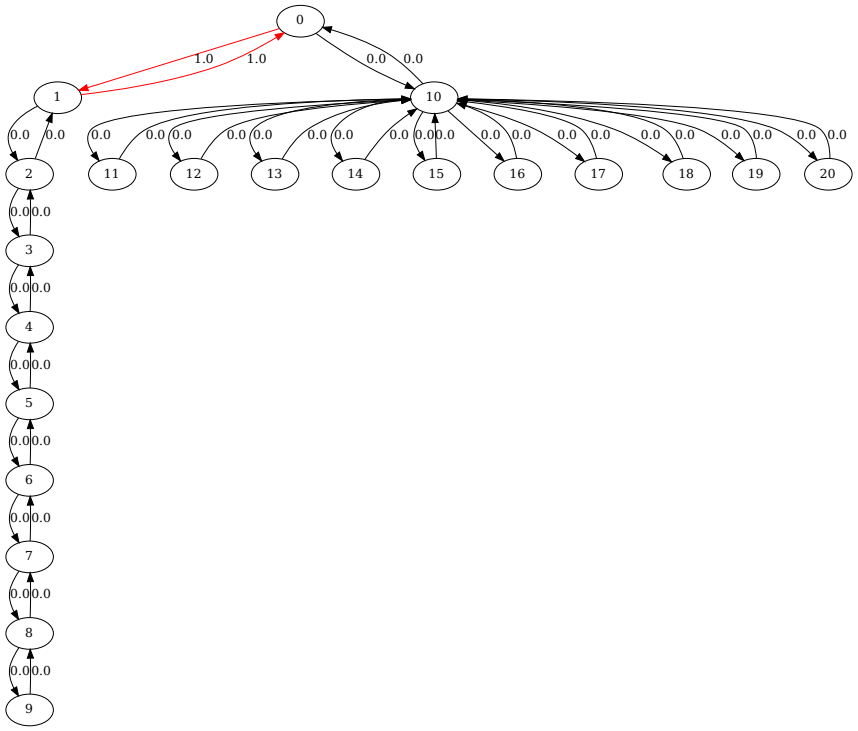


Enhancement

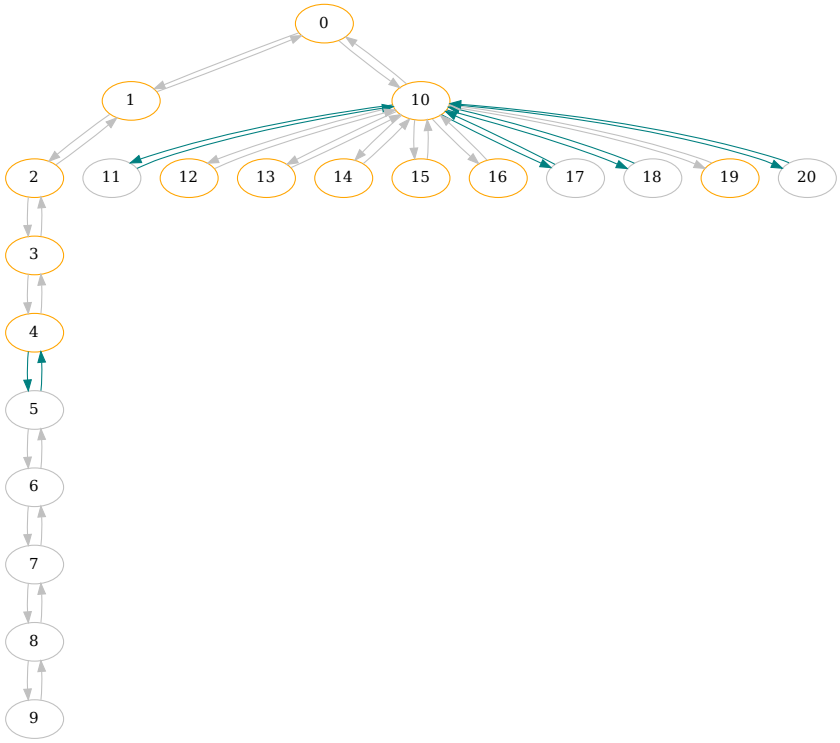
Flow


1.0
0.0
0.0
11.0
0.0
0.0
1.0
0.0
0.0
1.0
0.0
1.0
0.0
1

Cut

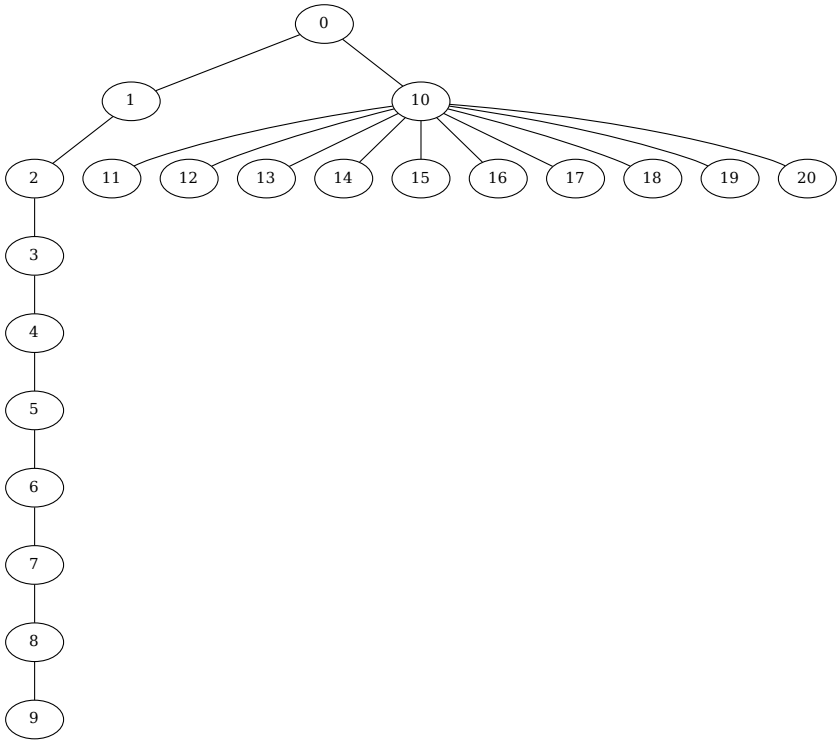


Aproximation



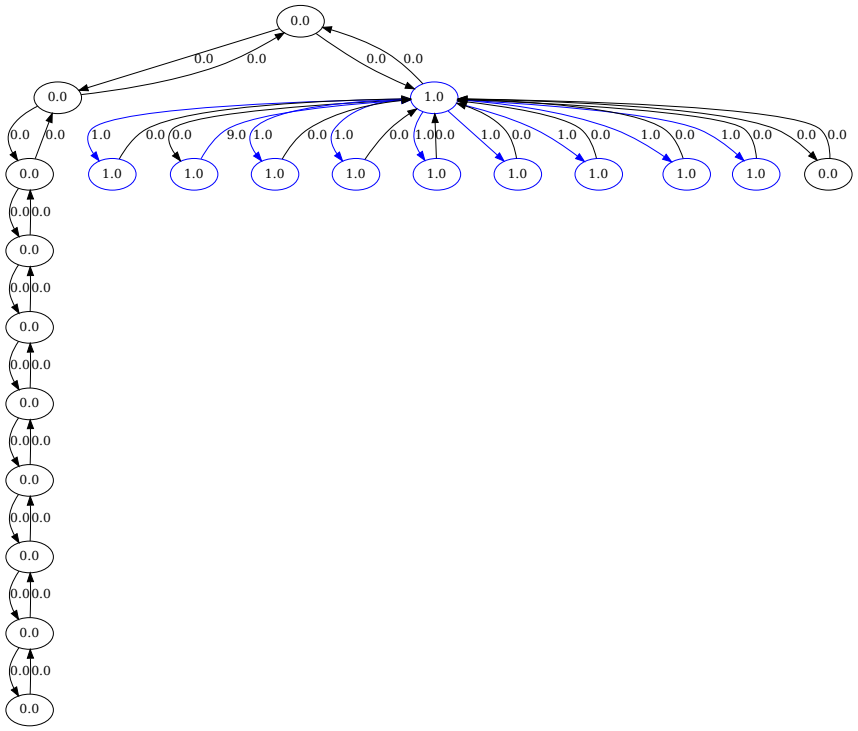
comet2

The source vertex is $s = 12$ and capacity is $k = 10$.

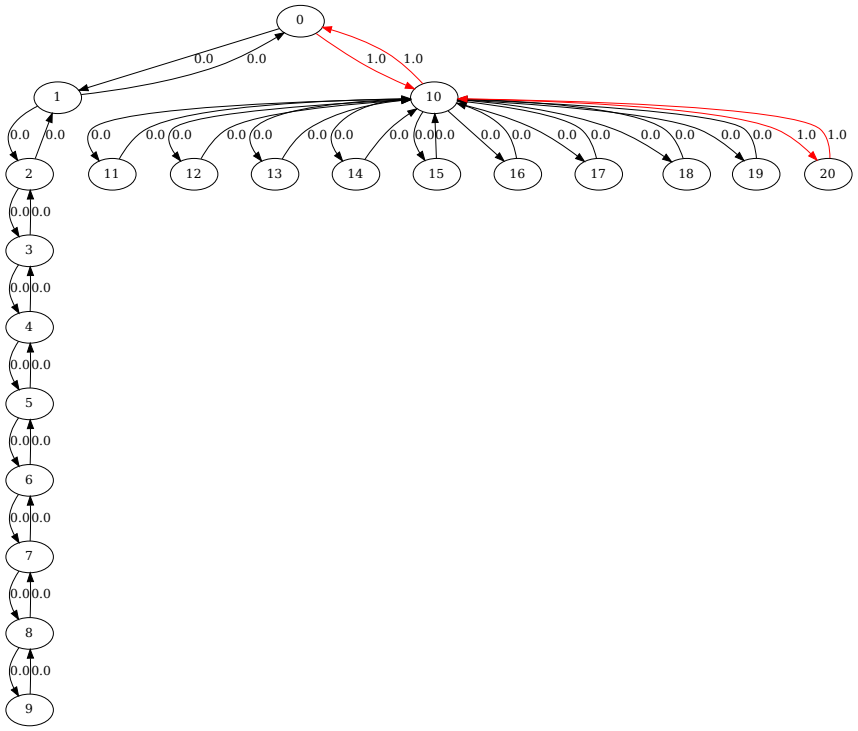

0
1
10
2
11
12
13
14
15
16
17
18
19
20
3
4
5
6
7
8
9

Linear program

Flow

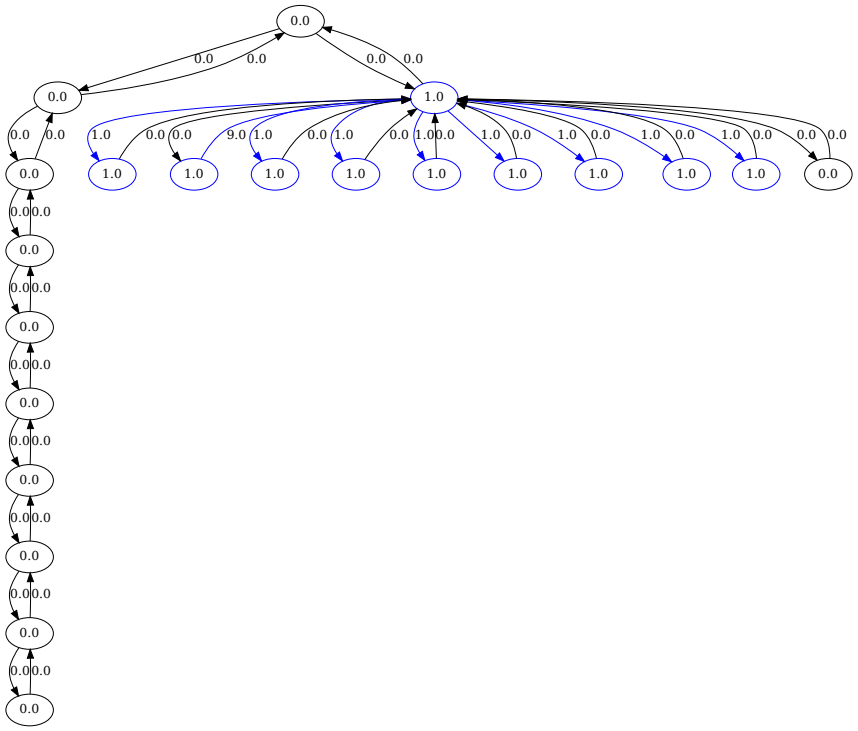

0.0
0.0
0.0
0.0
0.0
1.0
0.0
0.0
1.0
0.0
0.0
9.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
0.0
0.0
0

Cut

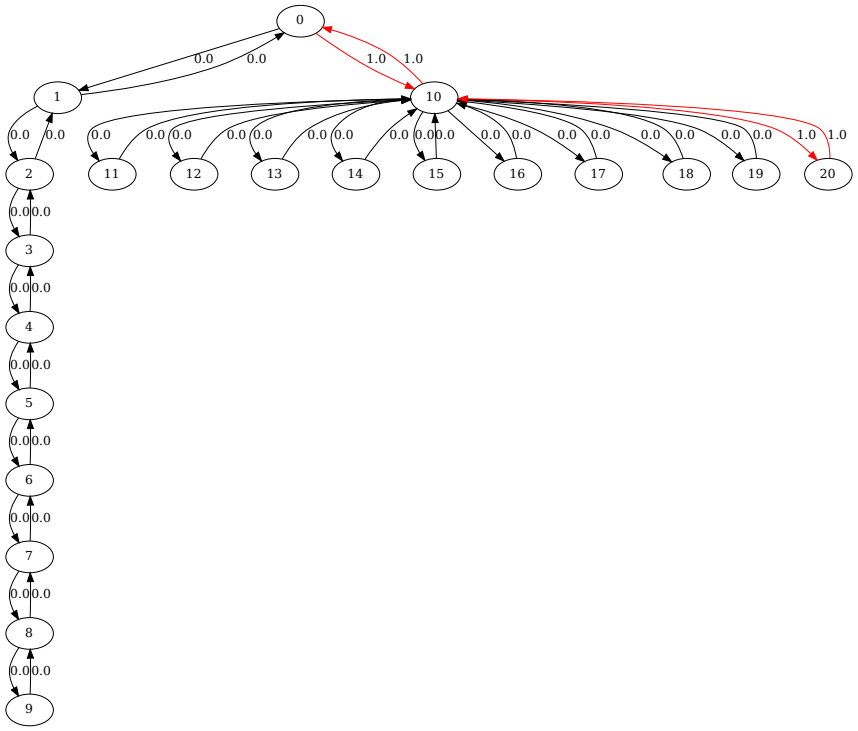


Enhancement

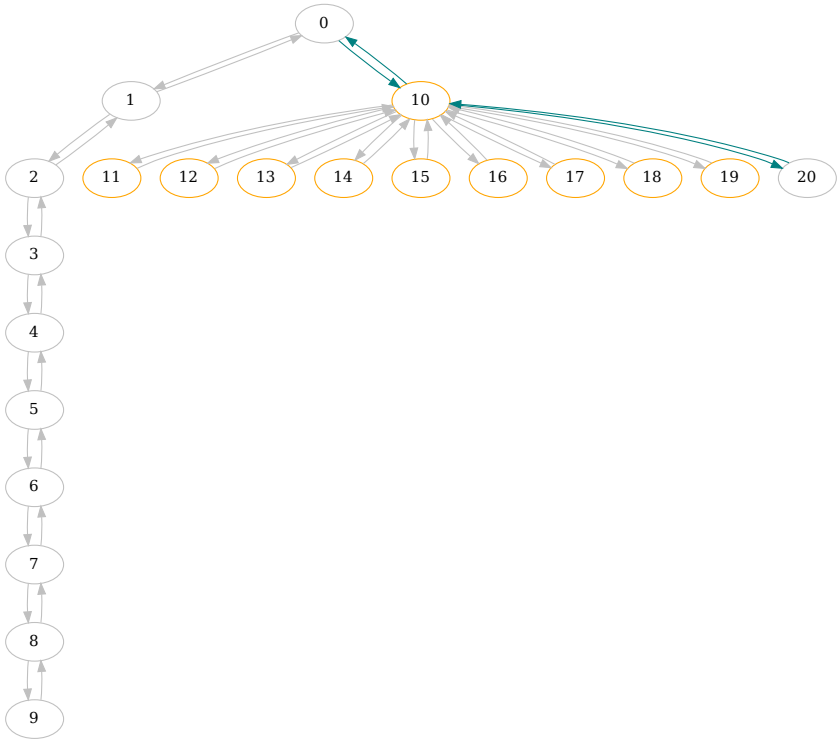
Flow


0.0
0.0
0.0
0.0
0.0
1.0
0.0
0.0
1.0
0.0
0.0
9.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
0.0
0.0
0

Cut

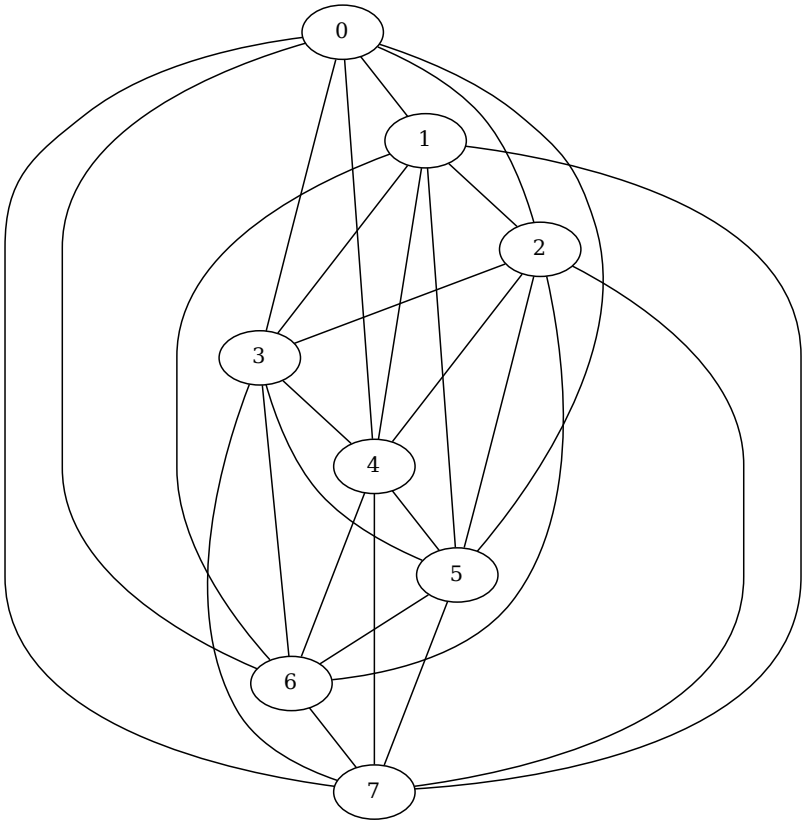


Aproximation



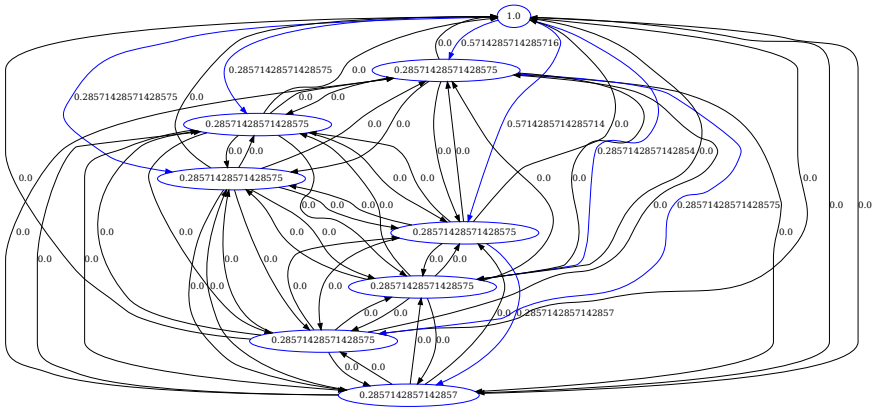
clique

The source vertex is $s = 0$ and capacity is $k = 3$.

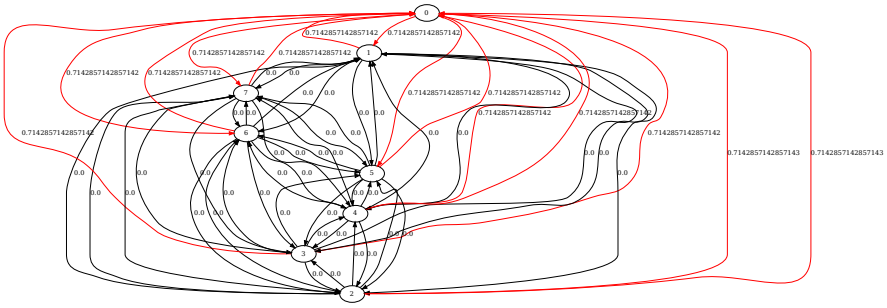

0
1
2
3
4
5
6
7

Linear program

Flow

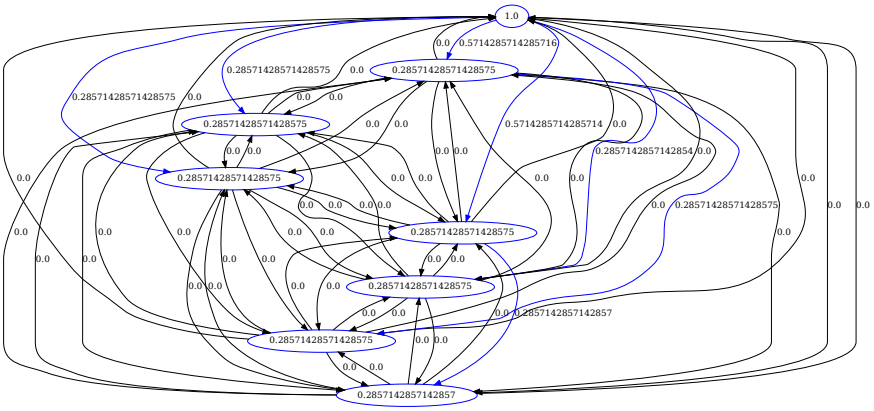


Cut

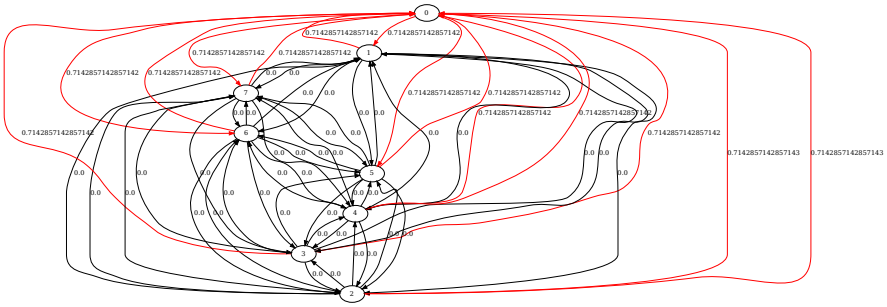


Enhancement

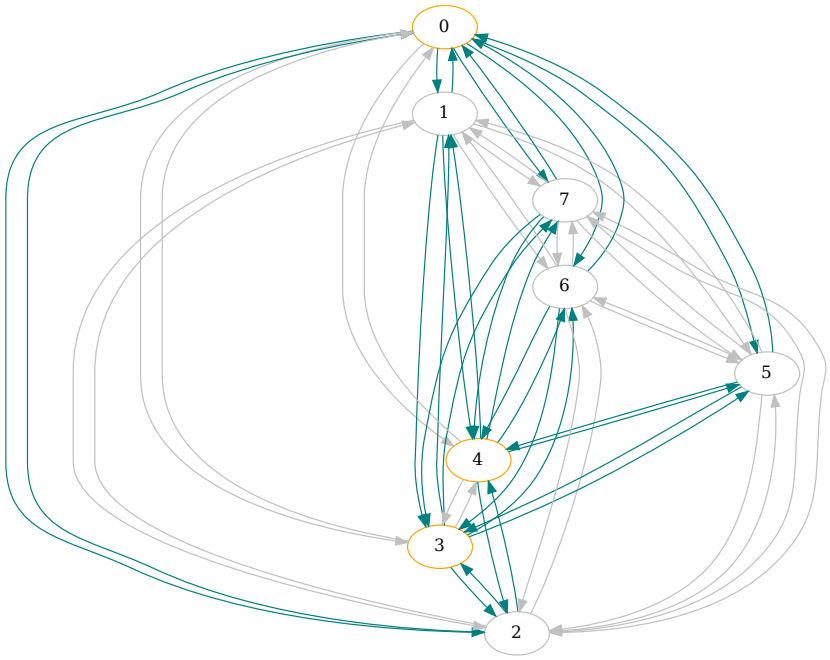
Flow



Cut

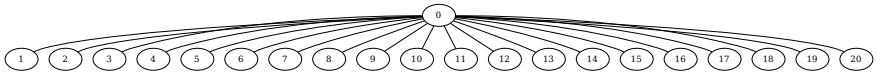


Aproximation



star

The source vertex is $s = 1$ and capacity is $k = 4$.



Linear program

Flow

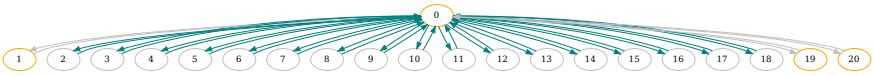
Cut

Enhancement

Flow

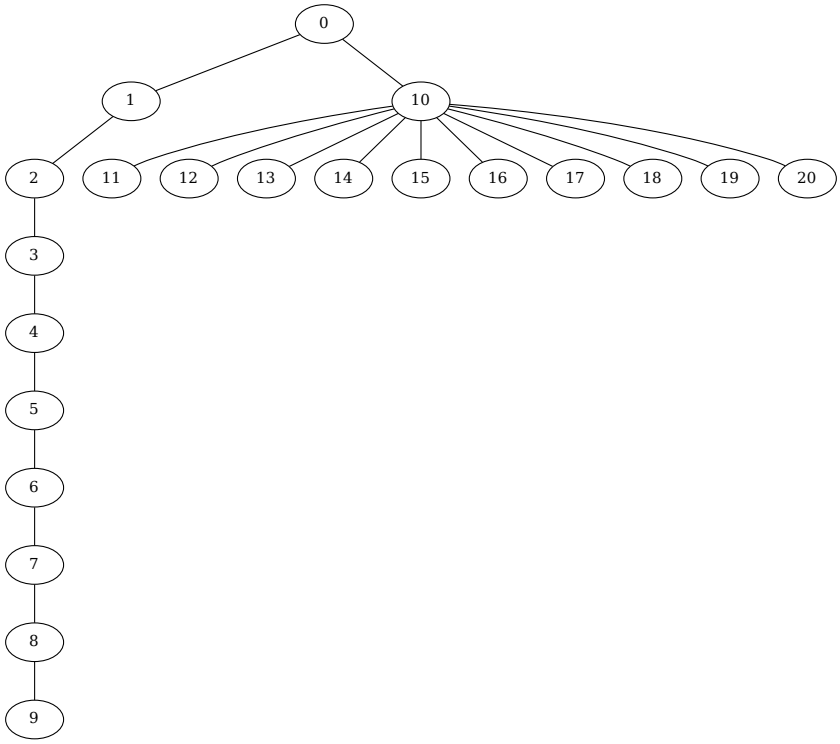
Cut

Aproximation



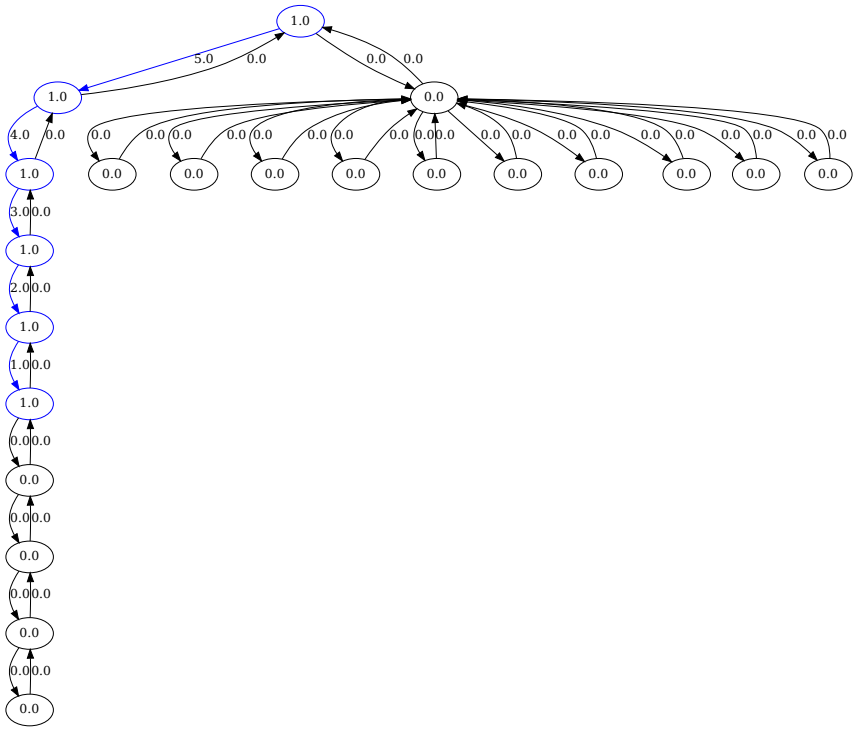
path

The source vertex is $s = 0$ and capacity is $k = 6$.

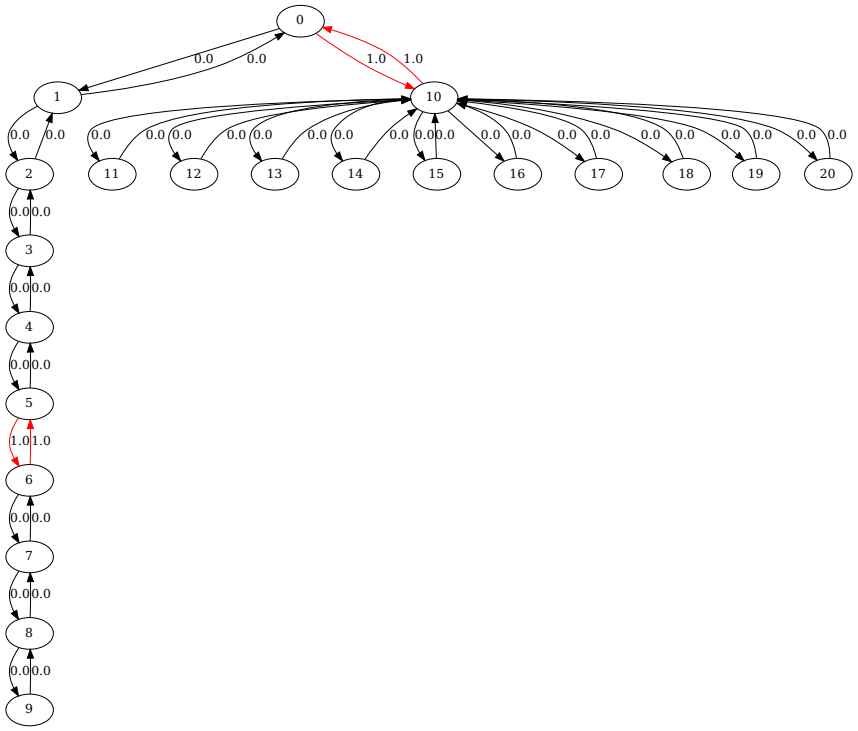

0
1
10
2
11
12
13
14
15
16
17
18
19
20
3
4
5
6
7
8
9

Linear program

Flow

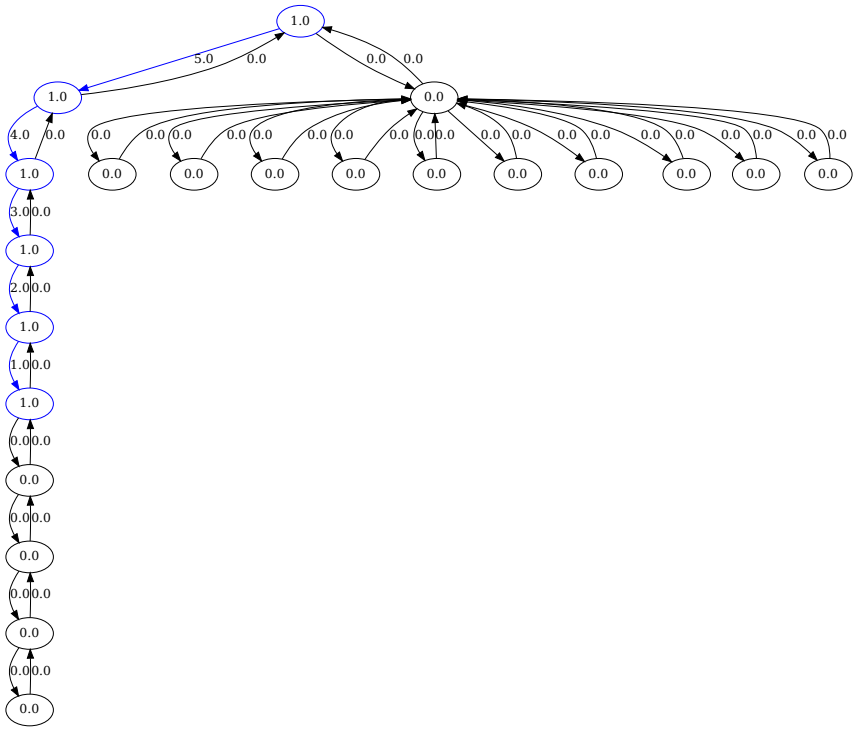

1.0
5.0
0.0
0.0
0.0
1.0
0.0
4.0
0.0
0.0
1.0
0.0
3.0
0.0
1.0
2.0
0.0
1.0
1.0
0.0
1.0
0.0
0.0
0

Cut

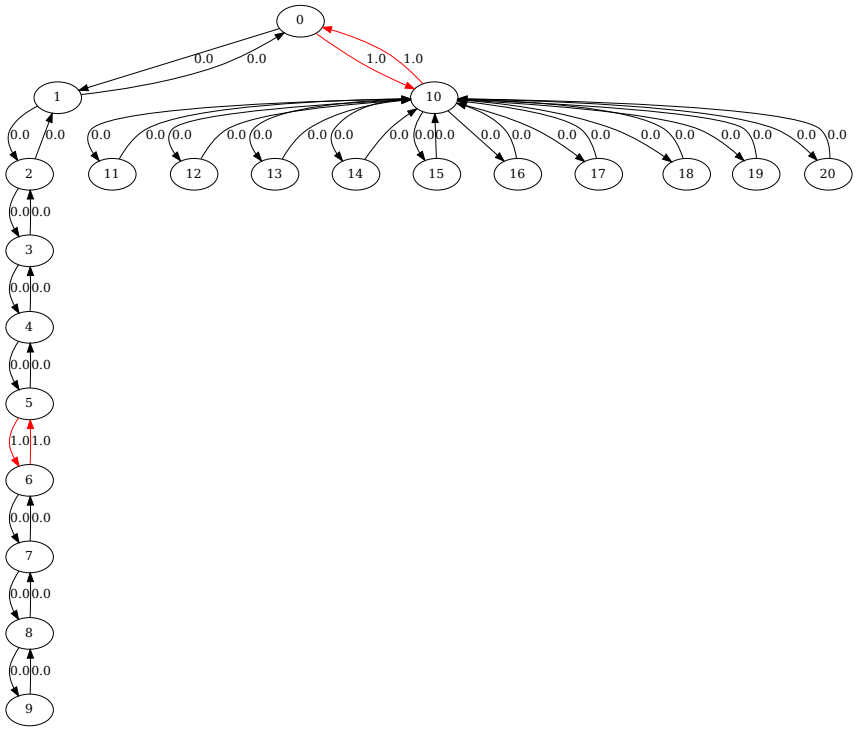


Enhancement

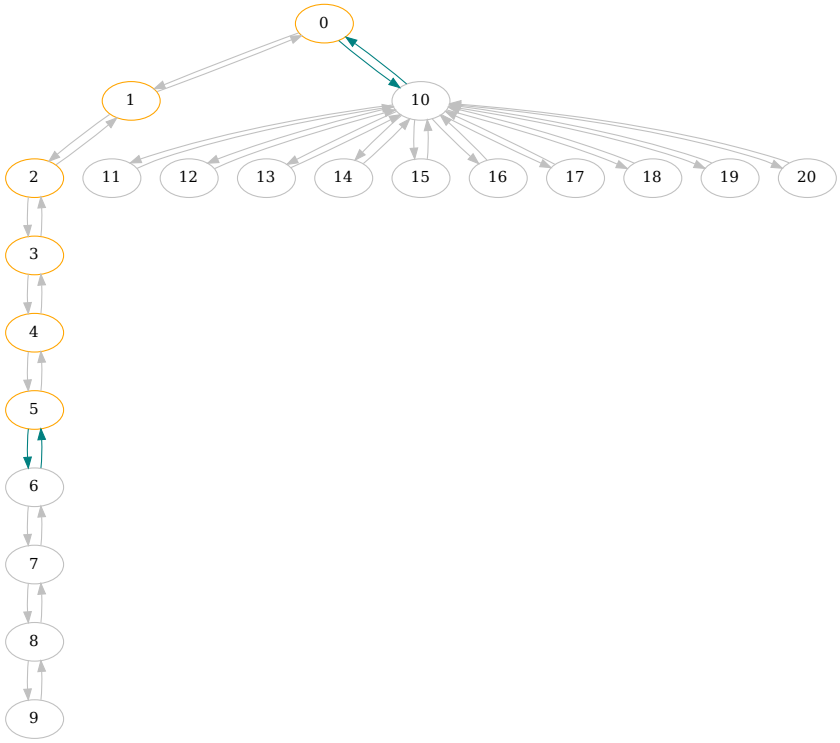
Flow


1.0
5.0
0.0
0.0
0.0
1.0
0.0
4.0
0.0
1.0
3.0
0.0
1.0
2.0
0.0
1.0
1.0
0.0
1.0
0.0
0.0
0

Cut

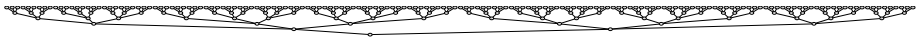


Aproximation



tree

The source vertex is $s = 0$ and capacity is $k = 15$.



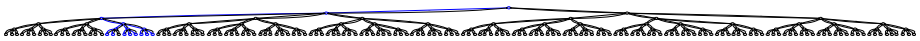
Linear program

Flow

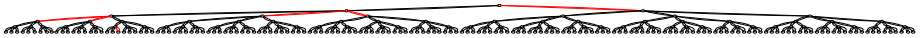
Cut

Enhancement

Flow



Cut



Aproximation