

Lab 6 (April 12th)

Implement Warshall's algorithm to find the transitive closure for a graph.

```
class WarshallApp
{
    public static void main(String[] args) throws IOException
    {
        Graph theGraph = new Graph();
        theGraph.addVertex('A'); // 0
        theGraph.addVertex('B'); // 1
        theGraph.addVertex('C'); // 2
        theGraph.addVertex('D'); // 3
        theGraph.addVertex('E'); // 4

        theGraph.addEdge(0, 2); // AC
        theGraph.addEdge(1, 0); // BA
        theGraph.addEdge(1, 4); // BE
        theGraph.addEdge(3, 4); // DE
        theGraph.addEdge(4, 2); // EC

        System.out.println("Original adjacency matrix");
        theGraph.adjMatDisplay(); // display adj matrix

        theGraph.warshall(); // do the algorithm

        System.out.println();
    }
}
```

If you are using the above codes in your solution, the output will look like:

Original adjacency matrix

	A	B	C	D	E
A	0	0	1	0	0
B	1	0	0	0	1
C	0	0	0	0	0
D	0	0	0	0	1
E	0	0	1	0	0

Transitive closure

	A	B	C	D	E
A	0	0	1	0	0
B	1	0	1	0	1
C	0	0	0	0	0
D	0	0	1	0	1
E	0	0	1	0	0