Assignment 3
11510257　彭福

Exe.1

1)　abcdef

2)　adebcf

3)　abdcef

4)　adbecf

5)　abdecf

6)　adbcef

Thus the total number of topological ordering is 6.

Exe.3

We run the topological ordering algorithm with the following small modification. If in every iteration we find a node with no incoming edges, then we will succeed in producing a topological ordering. If in some iteration, it shows that every node has at least one incoming edge, then G must contain a cycle. Next, we find a cycle by following an edge into the node we are currently at. Since every node has an incoming edge, we can do this repeatedly until we re-visit a node v for the first time.