Lab 10
Topological Sorting

2019. 05. 16

HYU 한양대학교 HANYANG UNIVERSITY

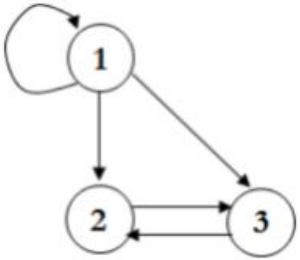
lab 10. Topological Sorting

- **Data Structure Specification**

```
struct _Graph{
        int size;
        int* node;
        int** matrix;
};

struct _Queue{
        int* key;
        int first;
        int rear;
        int qsize;
        int max_queue_size;
}
```

You can change it if you want.



	1	2	3
1	1	1	1
2	0	0	1
3	0	1	0

lab 10. Topological Sorting

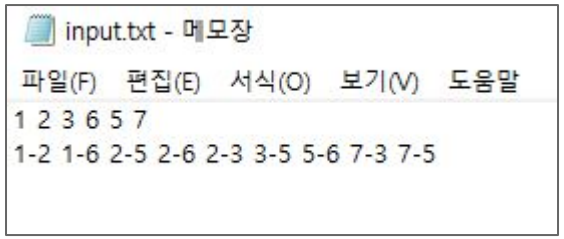
- **Function specification**
  - Graph CreateGraph(int[] nodes)
    - create a graph with nodes.
  - void InsertEdge(Graph G, int a, int b)
    - insert a edge.
  - void Topsort(Graph G)
    - print the graph by topological sort
  - Queue MakeNewQueue(int X)
    - create a new queue with the size of X.
  - void Enqueue(Queue* Q, int X)
    - a new element at the end of the element in the queue.
  - int Dequeue(Queue* Q)
    - the node in the front.

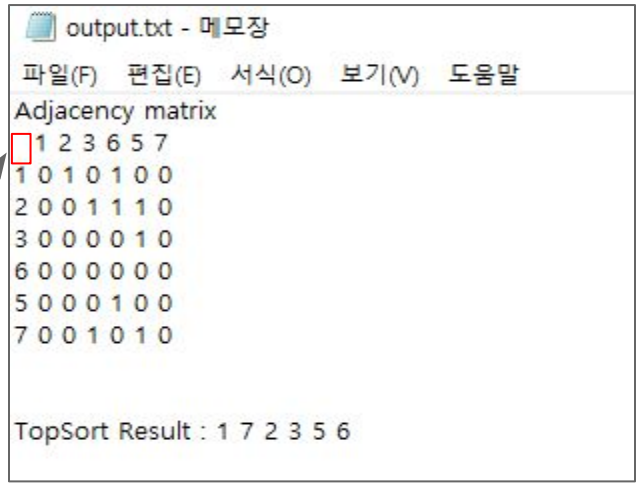
You should make other function if you need.

DeleteGraph, DeleteQueue, etc..

lab 10. Topological Sorting

- **Input**
  - The first line contains a set of vertices.
  - The Second line contains a set of edges.
  - All vertices is represented by an integer.
- **You have to use file I/O like the previous assignment.**





2 blank spaces

- sort the smaller number key if same priority.

lab 10. Topological Sorting

- Submission
  - Project directory name : lab10
  - Source file name : p10.c
  - Executable file name : p10.out
  - You should upload in the hconnect (Gitlab) server.

DeadLine

Wednesday, 22 May, 23 : 59 pm