

자료구조 실습 1강 예시 코드

```
#include <iostream>
#include <queue>
using namespace std;

class Job{
    int id;
    string user;
    int pages;

    static int count;

public:
    Job(const string& u, int p) : user(u), pages(p), id(++count) {}

    friend ostream& operator<<(ostream& os, const Job& j) {
        os << "id: " << j.id << ", 사용자: " << j.user << ", 페이지수: " << j.pages << "장";
        return os;
    }
};

int Job::count = 0;

template <size_t N>
class Printer{
    queue<Job> jobs;

public:
    bool addNewJob(const Job& job) {
        if (jobs.size() == N) {
            cout << "인쇄 대기열에 추가 실패: " << job << endl;
            return false;
        }

        cout << "인쇄 대기열에 추가: " << job << endl;
        jobs.push(job);
        return true;
    }

    void startPrinting() {
        while (not jobs.empty()) {
            cout << "인쇄 중: " << jobs.front() << endl;
            jobs.pop();
        }
    }
};

int main() {
    Printer<2> printer;

    Job j1("성신", 10);
    Job j2("수정", 4);
    Job j3("자료", 5);
    Job j4("구조", 7);

    printer.addNewJob(j1);
    printer.addNewJob(j2);
    printer.addNewJob(j3);
    printer.addNewJob(j4);
    printer.startPrinting();

    printer.addNewJob(j3);
    printer.addNewJob(j4);
    printer.startPrinting();
}
```