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1. 소스 코드

#include <stdio.h>

#include <stdlib.h>

#include <unistd.h>

#include <sys/time.h>

#include <errno.h>

#include <fcntl.h>

#include "ssu\_runtime.h"

#define NAMESIZE 50

#define MAXTRIES 5

struct employee {

char name[NAMESIZE];

int salary;

int pid;

};

int main(int argc, char \*argv[])

{

struct flock lock;

struct employee record;

int fd, sum = 0, try = 0;

gettimeofday(&begin\_t, NULL);

sleep(10);

if ((fd = open(argv[1], O\_RDONLY)) == -1) {

perror(argv[1]);

exit(1);

}

lock.l\_type = F\_RDLCK; // lock을 read 락으로 설정

lock.l\_whence = 0;

lock.l\_start = 0L;

lock.l\_len = 0L;

while (fcntl(fd, F\_SETLK, &lock) == -1) { // 락 설정

if (errno == EACCES) {

if (try++ < MAXTRIES) {

sleep(1);

continue;

}

printf("%s busy -- try later\n", argv[1]);

exit(2);

}

perror(argv[1]);

exit(3);

}

sum = 0;

while (read(fd, (char \*)&record, sizeof(record)) > 0) {

printf("Employee: %s, Salary: %d\n", record.name, record.salary);

sum += record.salary;

}

printf("\nTotal salary: %d\n", sum);

lock.l\_type = F\_UNLCK;

fcntl(fd, F\_SETLK, &lock); // lock 해제

close(fd);

gettimeofday(&end\_t, NULL);

ssu\_runtime(&begin\_t, &end\_t);

exit(0);

}

1. 실행 결과

