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echo_server_pipe.c

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#include <sys/types.h>
#include <sys/stat.h>
#include <stdlib.h>
#include <fcntl.h>
#include <unistd.h>
#include <stdio.h>
#include <string.h>
#define MAXLINE 1024

int main(int argc, char **argv)
{
    int rfd, wfd;
    char buf[MAXLINE];
    char str[MAXLINE] = "";
    pid_t pid;

    mkfifo("/tmp/myfifo_r", S_IRUSR|S_IWUSR);
    mkfifo("/tmp/myfifo_w", S_IRUSR|S_IWUSR);

    if ( (rfd = open("/tmp/myfifo_r", O_RDWR)) == -1)
    {
        perror("rfd error");
        return 0;
    }
    if ( (wfd = open("/tmp/myfifo_w", O_RDWR)) == -1)
    {
        perror("wfd error");
        return 0;
    }

    for(int i=0; i<3; i++)
    {
        pid = fork();
        if(pid==0){
            memset(buf, 0x00, MAXLINE);
            if(read(rfd, buf, MAXLINE) < 0)
            {
                perror("Read Error");
                return 0;
            }
            printf("Read: %s", buf);
            strcat(str, buf);
            printf("str: %s", str);
            write(wfd, str, MAXLINE);
            lseek(wfd, 0, SEEK_SET);
        } else{
            //close(wfd);
            //close(rfd);
        }
    }

    // write(wfd, str, MAXLINE);
    // lseek(wfd, 0, SEEK_SET);
    close(wfd);
    close(rfd);

    return 0;
}

```