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#include <stdio.h>
#include <unistd.h>
#include <string.h>

int main() {
    int fd[2] = {-1};
    printf("fd: %d %d\n", fd[0], fd[1]);

    int ret = pipe(fd);

    printf("fd: %d %d\n", fd[0], fd[1]);

    char buffer_in[20];
    ssize_t nread2 = read(0, buffer_in, 20);
    buffer_in[nread2] = '\0';

    int pid = fork();
    if (0 == pid) {

        // child
        char buffer[20];
        strncpy(buffer, "This is a long sentence, much
            longer than 20 characters", 20);

        printf("Child is waiting for input..\n");
        ssize_t nread = read(fd[0], buffer, 19);
        if (-1 == nread) {
            perror("error");
        } else {
            buffer[nread] = '\0';
            printf("nread: %zd\n", nread);
            printf("%s\n", buffer);
        }

    } else {

        sleep(1);

        // parent
        printf("child pid is %d\n", pid);

        ssize_t nwriten = write(fd[1], buffer_in,
            strlen(buffer_in) );
        if (-1 == nwriten) {

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        perror("error");  
    } else {  
        printf("%zd bytes written\n", nwritten);  
    }  
    printf("parent has completed\n");
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}
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close(fd[0]);  
close(fd[1]);  
return 0;
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}
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