

Wayne State University

CSC 4421 - Winter 2020

Computer Operating Systems Labs

Lab 07 - Pipeline and Redirection

Instructors

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Points Possible: 100

Tasks

1. * (100 points) In the following program, a child will writes a string to a pipe and the parent reads the string from the pipe.
 - (a) Read the man page of **pipe** system call.
 - (b) Fill in the blanks in the code provided and make sure it works as the description above.
 - (c) Compile the code and make sure it is executable.
 - (d) Upload the source code.

```

#include <stdio.h>
#include <string.h>
#include <unistd.h>
#include <sys/types.h>
#define BUFSIZE 10
int main(void) {
    char bufin[BUFSIZE] = "empty";
    char bufout[] = "hello";
    int bytesin;
    pid_t childpid;
    int fd[2];
    if (-----) { /* create a pipe */
        perror("Failed to create the pipe");
        return 1;
    }
    bytesin = strlen(bufin);
    childpid = fork();
    if (-----) {
        perror("Failed to fork");
        return 1;
    }
    if (-----)
        /* child code */
        write(----, bufout, strlen(bufout)+1);
    else
        /* parent code */
        bytesin = read(----, bufin, BUFSIZE);
    fprintf(stderr, "[%ld]:my bufin is {%.s}, my bufout is {%s}\n", (long)getpid(),
        bytesin, bufin, bufout);
    return 0;
}

```

Asg_pipe.o.c