

OS Assignment 2

Q1.Using pipes, concatenate two strings.

- One process takes in the string as input and writes it to the pipe,
- The other process reads from the pipe and concatenates it with the other string.

Output:

```
adithya@ubuntu:~/Desktop/os 2$ cd "/h
enter a string
adi
adithya
adithya@ubuntu:~/Desktop/os 2$ █
```

Program:

```
#include <unistd.h>

int main()
{
    int p1[2];
    int p2[2];

    char str1[] = "thya";
    char str2[100];
    pid_t p;

    if (pipe(p1) == -1 || pipe(p2) == -1)
    {
        fprintf(stderr, "Failed to create pipe");
        return 1;
    }

    printf("enter a string\n");
    scanf("%s", str2);
    p = fork();

    if (p < 0)
    {
        fprintf(stderr, "Failed to fork");
        return 1;
    }

    else if (p > 0)
    {
        char str3[100];

        close(p1[0]);
        write(p1[1], str2, strlen(str2) + 1);
        close(p1[1]);
        wait(NULL);
        close(p2[1]);
        read(p2[0], str3, 100);
        printf("%s\n", str3);
        close(p2[0]);
    }

    else
    {
        close(p1[1]);
        char str3[100];
        read(p1[0], str3, 100);
        int c = strlen(str3);
        for (int i = 0; i < strlen(str1); i++)
            str3[c++] = str1[i];
        str3[c] = '\0';
        close(p1[0]);
        close(p2[0]);

        write(p2[1], str3, strlen(str3) + 1);
        close(p2[1]);

        exit(0);
    }
}
```