Programming Exercise 2

Name: Atharva Menkudle

SRN:PES2UG21CS104

Sem: B

Date: 23-02-2023

Q)Using pipes, reverse a string.

- One process takes in the string as input and writes it to a pipe
- The other process reads from the pipe and reverses the string.

Screenshots:

Code:

```c
#include <stdio.h>

#include <unistd.h>

#include <stdlib.h>

#include <string.h>


int main() {

    int pipefd[2];

    pid_t pid;

    char input_string[100], output_string[100];
```

```c
    if (pipe(pipefd) == -1) {

        perror("pipe");

        exit(EXIT_FAILURE);

    }


pid = fork();


if (pid == -1) {

    perror("fork");

    exit(EXIT_FAILURE);

}


if (pid > 0) {


    close(pipefd[0]);


    printf("Please enter a string which you want to reverse: ");

    fgets(input_string, sizeof(input_string), stdin);


    write(pipefd[1], input_string, strlen(input_string)+1);


    close(pipefd[1]);

} else {
```

```c
        close(pipefd[1]);


        read(pipefd[0], output_string, sizeof(output_string));


        int len = strlen(output_string);

        for (int i = 0; i < len/2; i++) {

            char temp = output_string[i];

            output_string[i] = output_string[len-i-1];

            output_string[len-i-1] = temp;

        }


        printf("The Reversed string is: %s\n", output_string);

        close(pipefd[0]);

    }


    return 0;

}
```

Output:

```
atharva@atharva-VirtualBox:~$ gedit OS2.c
atharva@atharva-VirtualBox:~$ gcc OS2.c
atharva@atharva-VirtualBox:~$ ./a.out
Please enter a string which you want to reverse: University
The Reversed string is:
ytisrevinU
atharva@atharva-VirtualBox:~$ █
```

```
atharva@atharva-VirtualBox:~$ gedit OS2.c
atharva@atharva-VirtualBox:~$ gcc OS2.c
atharva@atharva-VirtualBox:~$ ./a.out
Please enter a string which you want to reverse: University
The Reversed string is:
ytisrevinU
atharva@atharva-VirtualBox:~$ ./a.out
Please enter a string which you want to reverse: Hello World
The Reversed string is:
dlroW olleH
atharva@atharva-VirtualBox:~$ ./a.out
Please enter a string which you want to reverse: Its a good day today.
The Reversed string is:
.yadot yad doog a stI
atharva@atharva-VirtualBox:~$
```