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Assignment 3: IPC-PIPE

Problem Statement:

Implement a program using ordinary pipes in which one process sends a string message to a second process and the second process reverses the string.

Code:

```
#include<stdio.h>
```

```
#include<stdlib.h>
```

```
#include<string.h>
```

```
#include<unistd.h>
```

```
#include<sys/wait.h>
```

```
void processA(int);
```

```
void processB(int);
```

```
void processA(int writefd)
```

```
{
```

```
    int len;
```

```

char buff[80];

printf("Write a string : ");

fgets(buff,80,stdin);

len=strlen(buff);

if(buff[len-1]=='\n')
{
    len--;
}

write(writefd,buff,len);
}

void processB(int readfd)
{
    int n,i,j;

    char str[80],temp;

    n=read(readfd,str,80);

    str[n]='\0';

    i=0;

    j=strlen(str)-1;

    while(i<j)
    {

```

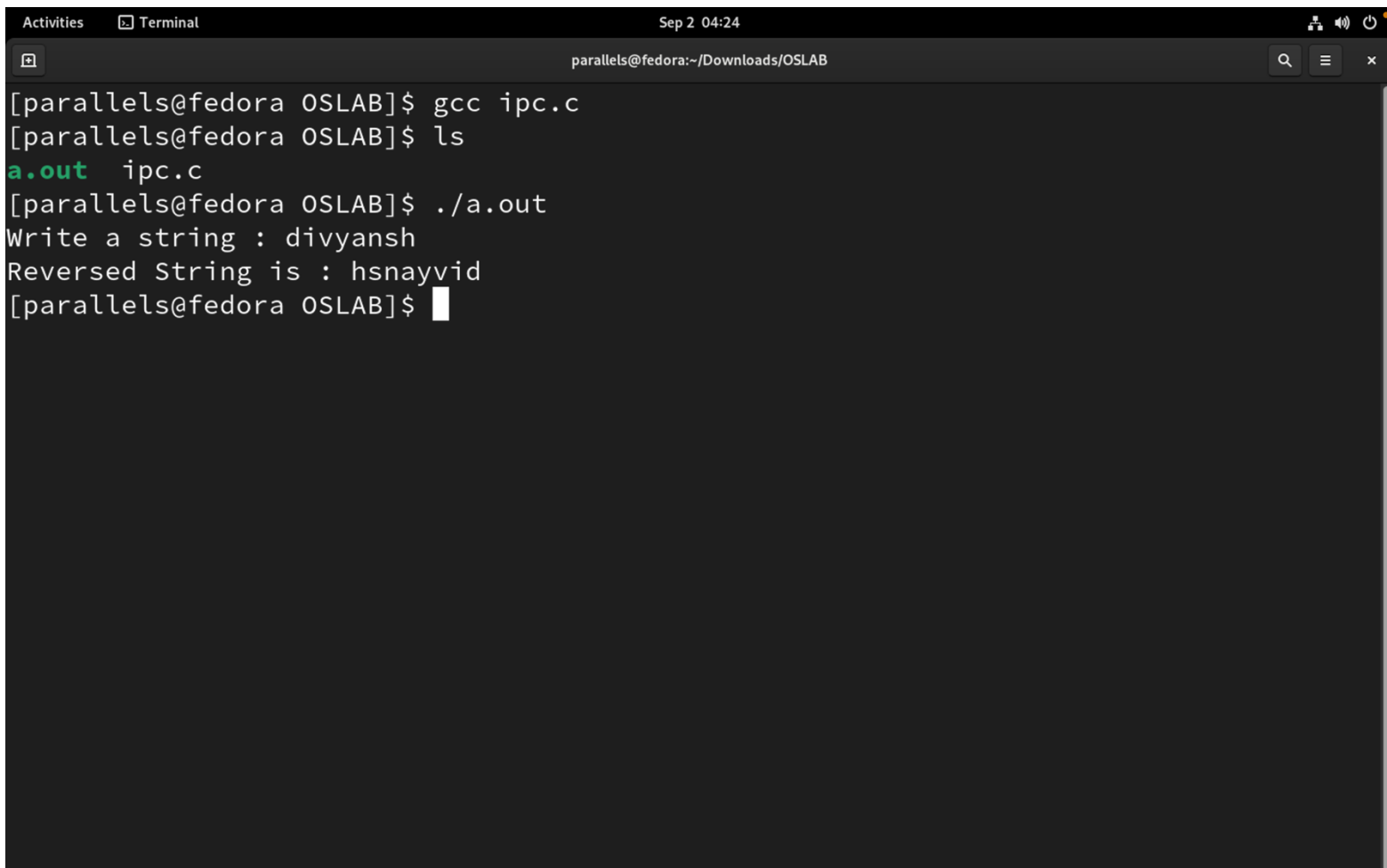
```
        temp = str[i];
        str[i]=str[j];
        str[j]=temp;
        i++;
        j--;
    }
    printf("Reversed String is : %s\n",str);
}
```

```
int main(void)
{
    int pipe1[2];
    pid_t childpid;
    pipe(pipe1);
    childpid=fork();

    if(childpid==0)
    {
        close(pipe1[1]);
        processB(pipe1[0]);
    }
}
```

```
else
{
    close(pipe1[0]);
    processA(pipe1[1]);
}
return EXIT_SUCCESS;
}
```

Output:

A terminal window titled 'Terminal' with a dark background. The window shows the following commands and output: [parallels@fedora OSLAB]\$ gcc ipc.c, [parallels@fedora OSLAB]\$ ls, a.out ipc.c, [parallels@fedora OSLAB]\$./a.out, Write a string : divyansh, Reversed String is : hsnayvid, [parallels@fedora OSLAB]\$. The terminal window has a title bar with 'Activities', 'Terminal', and a clock showing 'Sep 2 04:24'. There are also icons for search, menu, and close on the right side of the title bar.

```
Activities Terminal Sep 2 04:24 parallels@fedora:~/Downloads/OSLAB
[parallels@fedora OSLAB]$ gcc ipc.c
[parallels@fedora OSLAB]$ ls
a.out ipc.c
[parallels@fedora OSLAB]$ ./a.out
Write a string : divyansh
Reversed String is : hsnayvid
[parallels@fedora OSLAB]$
```