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Assignment No. 04

Problem Statement : Write a program to simulate inter process communication mechanism using pipes and redirection.

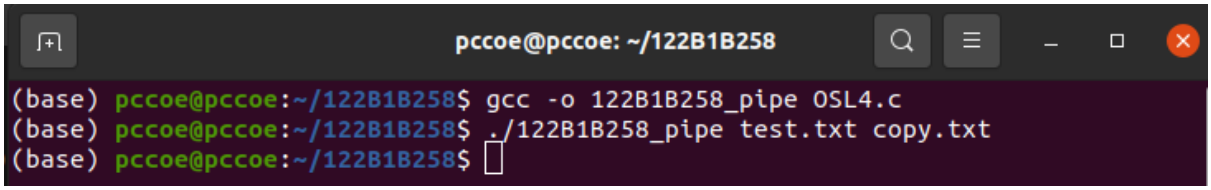
Code :

```
#include<stdio.h>
#include<unistd.h>
#include<sys/types.h>
#include<sys/stat.h>
#include<fcntl.h>

int main(int argc, char* argv[]) {
   if(argc != 3) {
      printf("You can not enter more or less than 3 arguments.\n");
      return 0;
   }

   int fd[2];
   int fork_val;
   char* file_1 = argv[1];
   char* file_2 = argv[2];
   int src_file;
   int dest_file;

   src_file = open(file_1, O_RDONLY);
   if(src_file == -1) {
      printf("Unable to open source file!!!\n");
      return 1;
```

```
} else {
    dup2(src_file, STDIN_FILENO);
    close(src_file);
}

pipe(fd);
fork_val = fork();

if(fork_val > 0) {
    dup2(fd[1], STDOUT_FILENO);
    close(fd[0]);
    close(fd[1]);
    execl("/usr/bin/sort", "sort", NULL);
    perror("execl failed for sort");
}
else if(fork_val == 0) {
    dup2(fd[0], STDIN_FILENO);
    dest_file = open(file_2, O_WRONLY | O_CREAT | O_TRUNC, 0644);
    if(dest_file == -1) {
        printf("Unable to open destination file!!!\n");
        return 1;
    } else {
        dup2(dest_file, STDOUT_FILENO);
        close(dest_file);
        close(fd[0]);
        close(fd[1]);
        execl("/usr/bin/uniq", "uniq", NULL);
        perror("execl failed for uniq");
```

```
    }
  } else {
    perror("Fork failed!!!");
    return 1;
  }

  return 0;
}
```

Complilation :



Output :