

Assignment Number 01

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Batch: C/C-3

Code:

```
#include <stdio.h>
#include <stdlib.h>
#include <sys/types.h>
#include <sys/wait.h>
#include <unistd.h>
#include <string.h>

int main() {
    int choice;
    char searchTerm[100];
    pid_t pid;

    printf("Select an option:\n");
    printf("1. Copy a file (cp)\n");
    printf("2. Search in file (grep)\n");
    printf("Enter choice: ");
    scanf("%d", &choice);
    getchar();

    if (choice == 1) {
        pid = fork();
        if (pid == -1) {
            perror("fork failed");
            exit(1);
        }
        if (pid == 0) {
            printf("Child (pid: %d) executing cp command\n", getpid());
```

```

        execl("/bin/cp", "cp", "source.txt", "destination.txt", (char *)NULL);
        perror("execl failed");
        exit(1);
    } else {
        wait(NULL);
        printf("Parent (pid: %d) cp process finished\n", getpid());
    }
} else if (choice == 2) {
    printf("Enter search term: ");
    fgets(searchTerm, sizeof(searchTerm), stdin);
    searchTerm[strcspn(searchTerm, "\n")] = 0;
    pid = fork();
    if (pid == -1) {
        perror("fork failed");
        exit(1);
    }
    if (pid == 0) {
        printf("Child (pid: %d) executing grep command\n", getpid());
        execl("/bin/grep", "grep", searchTerm, "file.txt", (char *)NULL);
        perror("execl failed");
        exit(1);
    } else {
        wait(NULL);
        printf("Parent (pid: %d) grep process finished\n", getpid());
    }
} else {
    printf("Invalid choice!\n");
}
return 0;
}

```

Output:

There are two outputs... The first output had direct command of cp as well as grep...while searching “m” only.

```
Terminal - labex@67a44397098fa2ceb38e13b8: ~/Desktop/
File Edit View Terminal Tabs Help
labex:~/ $ cd Desktop
labex:Desktop/ $ cd MiHiR
labex:MiHiR/ $ touch source.txt
labex:MiHiR/ $ cat> source.txt
Hello there! I'm MiHiR...
Thank you for being here!
labex:MiHiR/ $ g++ ass1.c -o ass1
labex:MiHiR/ $ touch file.txt
labex:MiHiR/ $ cat> file.txt
Hey! You are currently with the best person you'd ever get to meet.
Thank you for listening!
Bye!
labex:MiHiR/ $ ./ass1
Child (pid: 946) executing cp command
Parent (pid: 945) cp process finished
Child (pid: 947) executing grep command
Hey! You are currently with the best person you'd ever get to meet.
Parent (pid: 945) grep process finished
labex:MiHiR/ $ g++ ass1.c -o ass1
labex:MiHiR/ $ ./ass1
Select an option:
1. Copy a file (cp)
2. Search in file (grep)
Enter choice: 2
Enter search term: th
Child (pid: 1686) executing grep command
Hey! You are currently with the best person you'd ever get to meet.
Parent (pid: 1671) grep process finished
labex:MiHiR/ $ ./ass1
Select an option:
1. Copy a file (cp)
2. Search in file (grep)
Enter choice: 1
Child (pid: 1712) executing cp command
Parent (pid: 1705) cp process finished
labex:MiHiR/ $
```

Destination.txt:

```
Open ▼ +
ass1.c
1 Hello there! I'm MiHiR...
2 Thank you for being here!|
```