

CSE 344 – System Programming

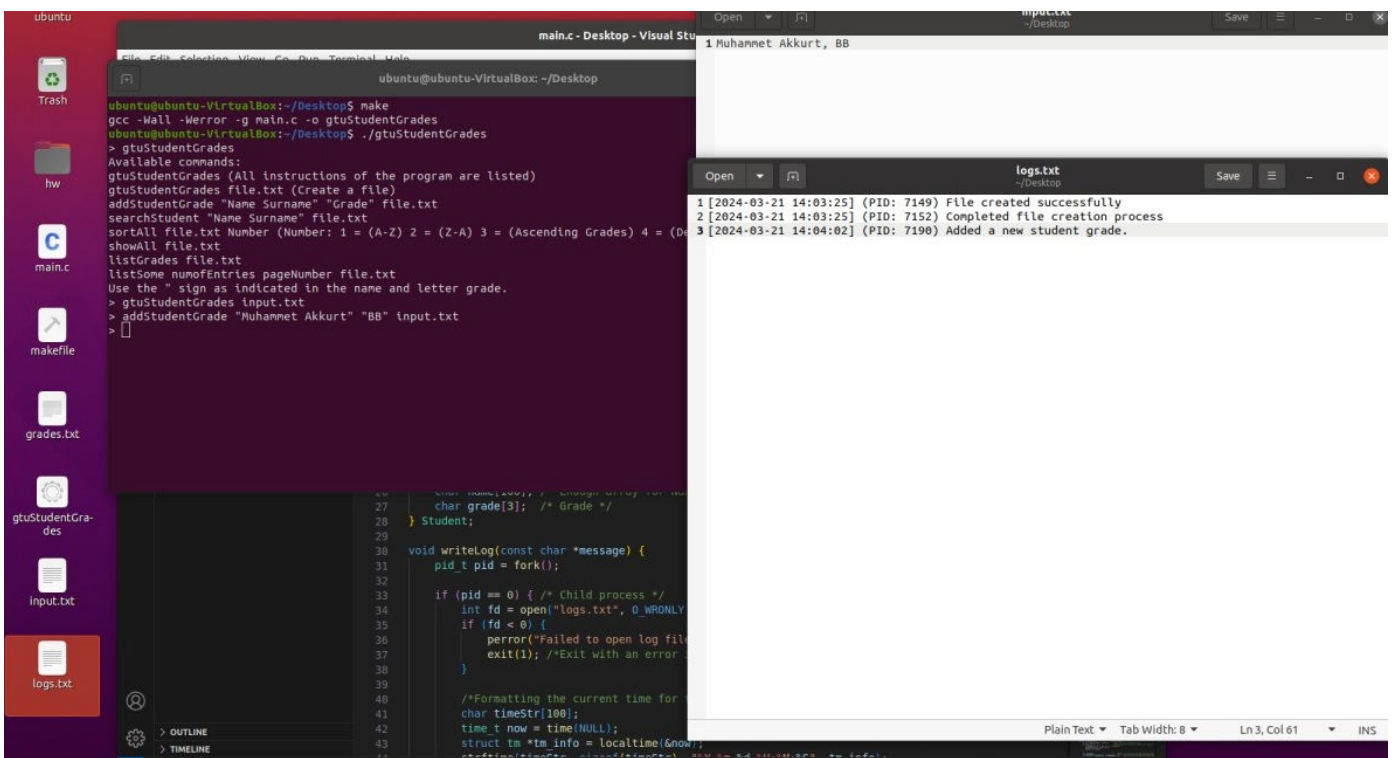
Homework-1 Report

Muhammet Akkurt

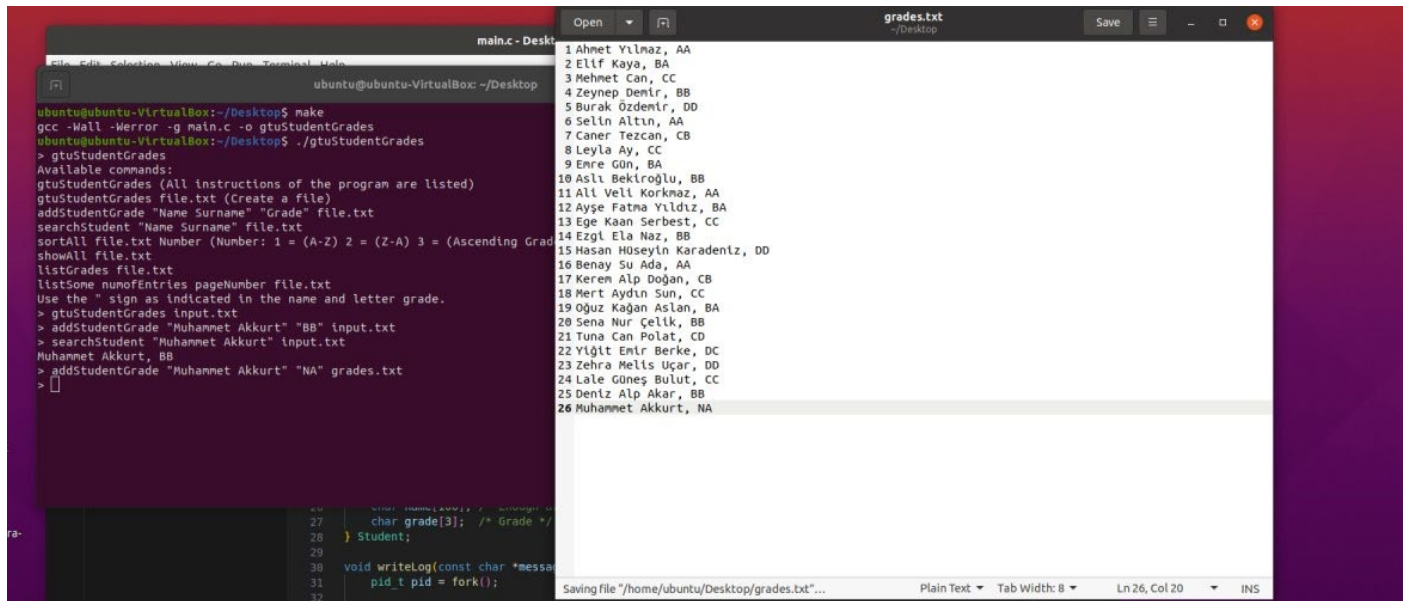
1901042644

Entering the command "gtuStudentGrades" without arguments prints a list of how all commands work, and if there is an argument, a file is created.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ make
gcc -Wall -Werror -g main.c -o gtuStudentGrades
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./gtuStudentGrades
> gtuStudentGrades
Available commands:
gtuStudentGrades (All instructions of the program are listed)
gtuStudentGrades file.txt (Create a file)
addStudentGrade "Name Surname" "Grade" file.txt
searchStudent "Name Surname" file.txt
sortAll file.txt Number (Number: 1 = (A-Z) 2 = (Z-A) 3 = (Ascending Grades) 4 = (Descending Grades) )
showAll file.txt
listGrades file.txt
listSome numofEntries pageNumber file.txt
Use the " " sign as indicated in the name and letter grade.
> gtuStudentGrades input.txt
>
```

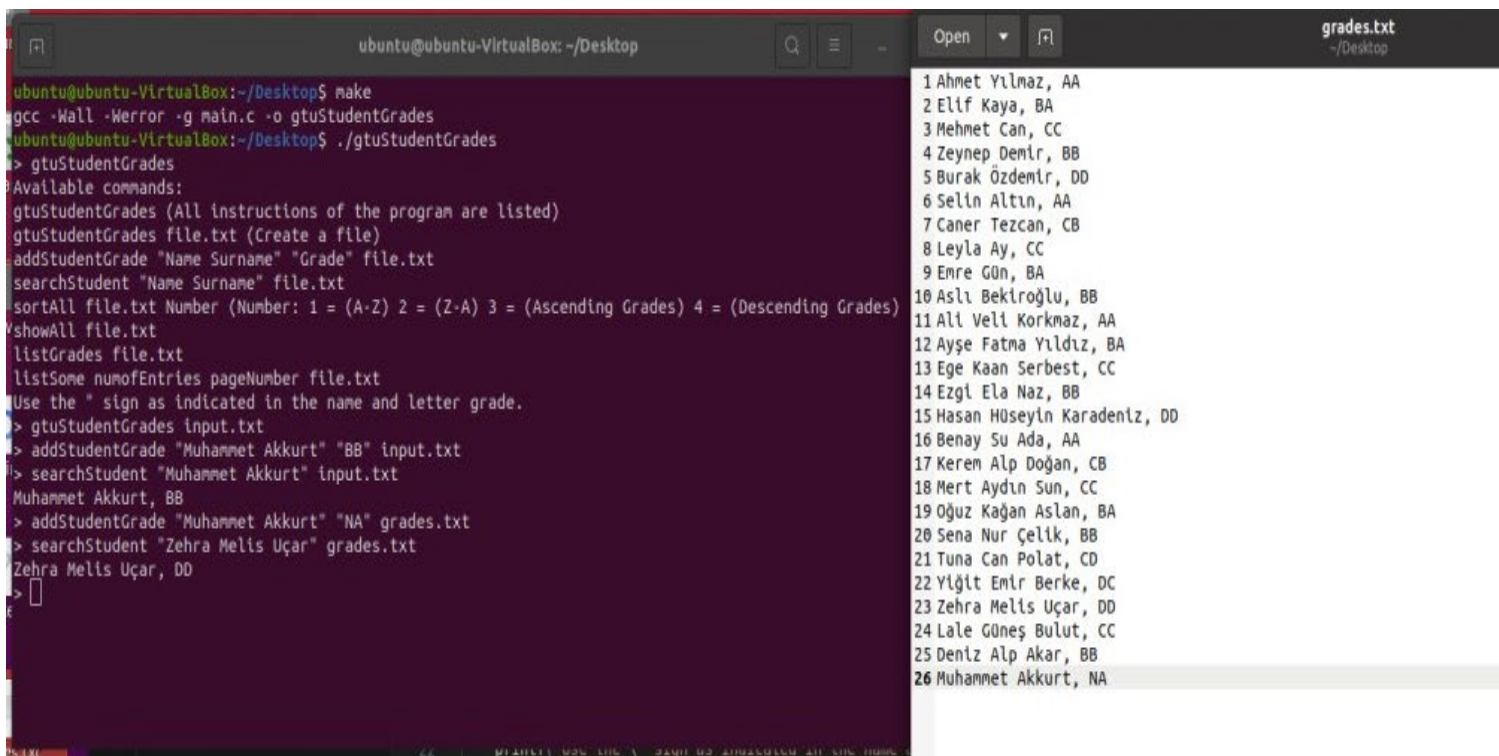


To use the "addStudentGrade" command, type the name and letter grade using the "(" sign, followed by the name of the file to be printed.



```
ubuntu@ubuntu-VirtualBox: ~/Desktop
main.c - Desktop
Open grades.txt
Save
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ make
gcc -Wall -Werror -g main.c -o gtuStudentGrades
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./gtuStudentGrades
> gtuStudentGrades
Available commands:
gtuStudentGrades (All instructions of the program are listed)
gtuStudentGrades file.txt (Create a file)
addStudentGrade "Name Surname" "Grade" file.txt
searchStudent "Name Surname" file.txt
sortAll file.txt Number (Number: 1 = (A-Z) 2 = (Z-A) 3 = (Ascending Grades) 4 = (Descending Grades)
showAll file.txt
listGrades file.txt
listSome numofEntries pageNumber file.txt
Use the " sign as indicated in the name and letter grade.
> gtuStudentGrades input.txt
> addStudentGrade "Muhammet Akkurt" "BB" input.txt
> searchStudent "Muhammet Akkurt" input.txt
Muhammet Akkurt, BB
> addStudentGrade "Muhammet Akkurt" "NA" grades.txt
> 
1 Ahmet Yılmaz, AA
2 Elif Kaya, BA
3 Mehmet Can, CC
4 Zeynep Demir, BB
5 Burak Özdemir, DD
6 Selin Altın, AA
7 Caner Tezcan, CB
8 Leyla Ay, CC
9 Enre Gün, BA
10 Aslı Bekiroğlu, BB
11 Ali Veli Korkmaz, AA
12 Ayşe Fatma Yıldız, BA
13 Ege Kaan Serbest, CC
14 Ezgi Ela Naz, BB
15 Hasan Hüseyin Karadentiz, DD
16 Benay Su Ada, AA
17 Kerem Alp Doğan, CB
18 Mert Aydın Sun, CC
19 Oğuz Kağan Aslan, BA
20 Sena Nur Çelik, BB
21 Tuna Can Polat, CD
22 Yiğit Emir Berke, DC
23 Zehra Melis Uçar, DD
24 Lale Güneş Bulut, CC
25 Deniz Alp Akar, BB
26 Muhammet Akkurt, NA
Saving file "/home/ubuntu/Desktop/grades.txt"...
```

To use the "searchStudent" command, specify the name using the "(" sign followed by the name of the file to be printed.



```
ubuntu@ubuntu-VirtualBox: ~/Desktop
Open grades.txt
Save
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ make
gcc -Wall -Werror -g main.c -o gtuStudentGrades
ubuntu@ubuntu-VirtualBox:~/Desktop$ ./gtuStudentGrades
> gtuStudentGrades
Available commands:
gtuStudentGrades (All instructions of the program are listed)
gtuStudentGrades file.txt (Create a file)
addStudentGrade "Name Surname" "Grade" file.txt
searchStudent "Name Surname" file.txt
sortAll file.txt Number (Number: 1 = (A-Z) 2 = (Z-A) 3 = (Ascending Grades) 4 = (Descending Grades)
showAll file.txt
listGrades file.txt
listSome numofEntries pageNumber file.txt
Use the " sign as indicated in the name and letter grade.
> gtuStudentGrades input.txt
> addStudentGrade "Muhammet Akkurt" "BB" input.txt
> searchStudent "Muhammet Akkurt" input.txt
Muhammet Akkurt, BB
> addStudentGrade "Muhammet Akkurt" "NA" grades.txt
> searchStudent "Zehra Melis Uçar" grades.txt
Zehra Melis Uçar, DD
> 
1 Ahmet Yılmaz, AA
2 Elif Kaya, BA
3 Mehmet Can, CC
4 Zeynep Demir, BB
5 Burak Özdemir, DD
6 Selin Altın, AA
7 Caner Tezcan, CB
8 Leyla Ay, CC
9 Enre Gün, BA
10 Aslı Bekiroğlu, BB
11 Ali Veli Korkmaz, AA
12 Ayşe Fatma Yıldız, BA
13 Ege Kaan Serbest, CC
14 Ezgi Ela Naz, BB
15 Hasan Hüseyin Karadentiz, DD
16 Benay Su Ada, AA
17 Kerem Alp Doğan, CB
18 Mert Aydın Sun, CC
19 Oğuz Kağan Aslan, BA
20 Sena Nur Çelik, BB
21 Tuna Can Polat, CD
22 Yiğit Emir Berke, DC
23 Zehra Melis Uçar, DD
24 Lale Güneş Bulut, CC
25 Deniz Alp Akar, BB
26 Muhammet Akkurt, NA
```

To use the "sortAll" command, after typing the file name, you must type the number that indicates your preference for sorting. The data is printed on the terminal, sorted according to the preference you selected.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop
llstGrades file.txt
llstSome numofEntries pageNumber file.txt
Use the " sign as indicated in the name and letter grade.
> gtuStudentGrades input.txt
> addStudentGrade "Muhammet Akkurt" "BB" input.txt
> searchStudent "Muhammet Akkurt" input.txt
Muhammet Akkurt, BB
> addStudentGrade "Muhammet Akkurt" "NA" grades.txt
> searchStudent "Zehra Melis Ucar" grades.txt
Zehra Melis Ucar, DD
> sortAll grades.txt 1
Ahmet Yilmaz, AA
Ali Veli Korkmaz, AA
Asli Bekiroglu, BB
Ayse Fatma Yildiz, BA
Benay Su Ada, AA
Burak Ozdenir, DD
Caner Tezcan, CB
Deniz Alp Akar, BB
Ege Kaan Serbest, CC
Elif Kaya, BA
Enre Gun, BA
Ezgi Ela Naz, BB
Hasan Huseyin Karadeniz, DD
Kerem Alp Dogan, CB
Lale Gunes Bulut, CC
Leyla Ay, CC
Mehmet Can, CC
Mert Aydın Sun, CC
Muhammet Akkurt, NA
Oguz Kağan Aslan, BA
Selin Altin, AA
Sena Nur Çelik, BB
Tuna Can Polat, CD
Yigit Emir Berke, DC
Zehra Melis Ucar, DD
Zeynep Demir, BB
>

2 | p10.1 p10 = 10FK11;

logs.txt
~/Desktop
1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Ucar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending

Plain Text Tab Width: 8 Ln 7, Col 71 INS

ubuntu@ubuntu-VirtualBox: ~/Desktop
Mehmet Can, CC
Mert Aydın Sun, CC
Muhammet Akkurt, NA
Oguz Kağan Aslan, BA
Selin Altin, AA
Sena Nur Çelik, BB
Tuna Can Polat, CD
Yigit Emir Berke, DC
Zehra Melis Ucar, DD
Zeynep Demir, BB
> sortAll grades.txt 2
Zeynep Demir, BB
Zehra Melis Ucar, DD
Yigit Emir Berke, DC
Tuna Can Polat, CD
Sena Nur Çelik, BB
Selin Altin, AA
Oguz Kağan Aslan, BA
Muhammet Akkurt, NA
Mert Aydın Sun, CC
Mehmet Can, CC
Leyla Ay, CC
Lale Gunes Bulut, CC
Kerem Alp Dogan, CB
Hasan Huseyin Karadeniz, DD
Ezgi Ela Naz, BB
Enre Gun, BA
Elif Kaya, BA
Ege Kaan Serbest, CC
Deniz Alp Akar, BB
Caner Tezcan, CB
Burak Ozdenir, DD
Benay Su Ada, AA
Ayse Fatma Yildiz, BA
Asli Bekiroglu, BB
Ali Veli Korkmaz, AA
Ahmet Yilmaz, AA
>

2 | p10.1 p10 = 10FK11;

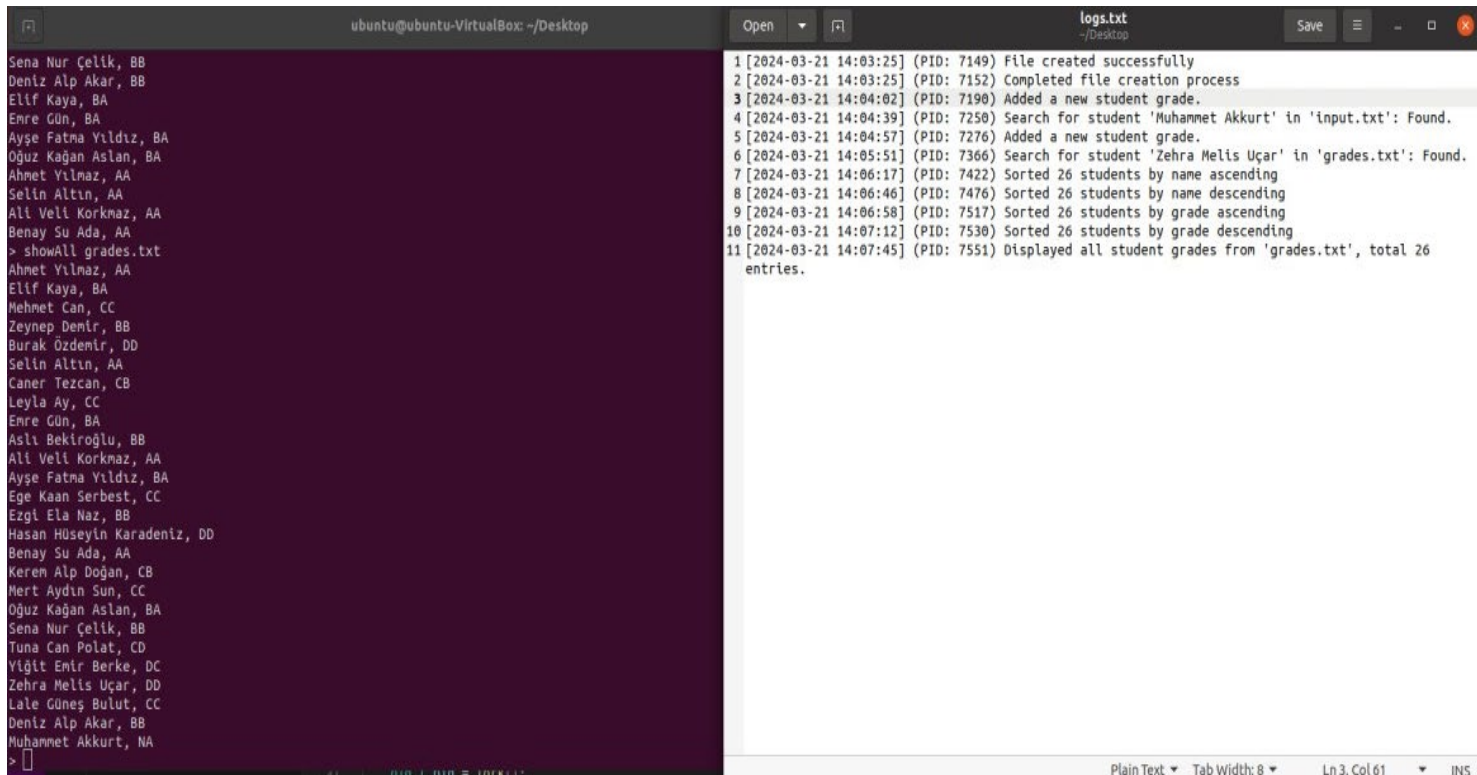
logs.txt
~/Desktop
1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Ucar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending
8 [2024-03-21 14:06:46] (PID: 7476) Sorted 26 students by name descending

Plain Text Tab Width: 8 Ln 3, Col 61 INS

ubuntu@ubuntu-VirtualBox: ~/Desktop
Leyla Ay, CC
Ege Kaan Serbest, CC
Mert Aydın Sun, CC
Lale Gunes Bulut, CC
Tuna Can Polat, CD
Yigit Emir Berke, DC
Burak Ozdenir, DD
Hasan Huseyin Karadeniz, DD
Zehra Melis Ucar, DD
Muhammet Akkurt, NA
> sortAll grades.txt 4
Muhammet Akkurt, NA
Burak Ozdenir, DD
Hasan Huseyin Karadeniz, DD
Zehra Melis Ucar, DD
Yigit Emir Berke, DC
Tuna Can Polat, CD
Mehmet Can, CC
Leyla Ay, CC
Ege Kaan Serbest, CC
Mert Aydın Sun, CC
Lale Gunes Bulut, CC
Caner Tezcan, CB
Kerem Alp Dogan, CB
Zeynep Demir, BB
Asli Bekiroglu, BB
Ezgi Ela Naz, BB
Sena Nur Çelik, BB
Deniz Alp Akar, BB
Elif Kaya, BA
Enre Gun, BA
Ayse Fatma Yildiz, BA
Oguz Kağan Aslan, BA
Ahmet Yilmaz, AA
Selin Altin, AA
Ali Veli Korkmaz, AA
Benay Su Ada, AA
>

logs.txt
~/Desktop
1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Ucar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending
8 [2024-03-21 14:06:46] (PID: 7476) Sorted 26 students by name descending
9 [2024-03-21 14:06:58] (PID: 7517) Sorted 26 students by grade ascending
10 [2024-03-21 14:07:12] (PID: 7530) Sorted 26 students by grade descending
```


To use the "showAll" command, after typing the file name, all data is printed on the terminal.

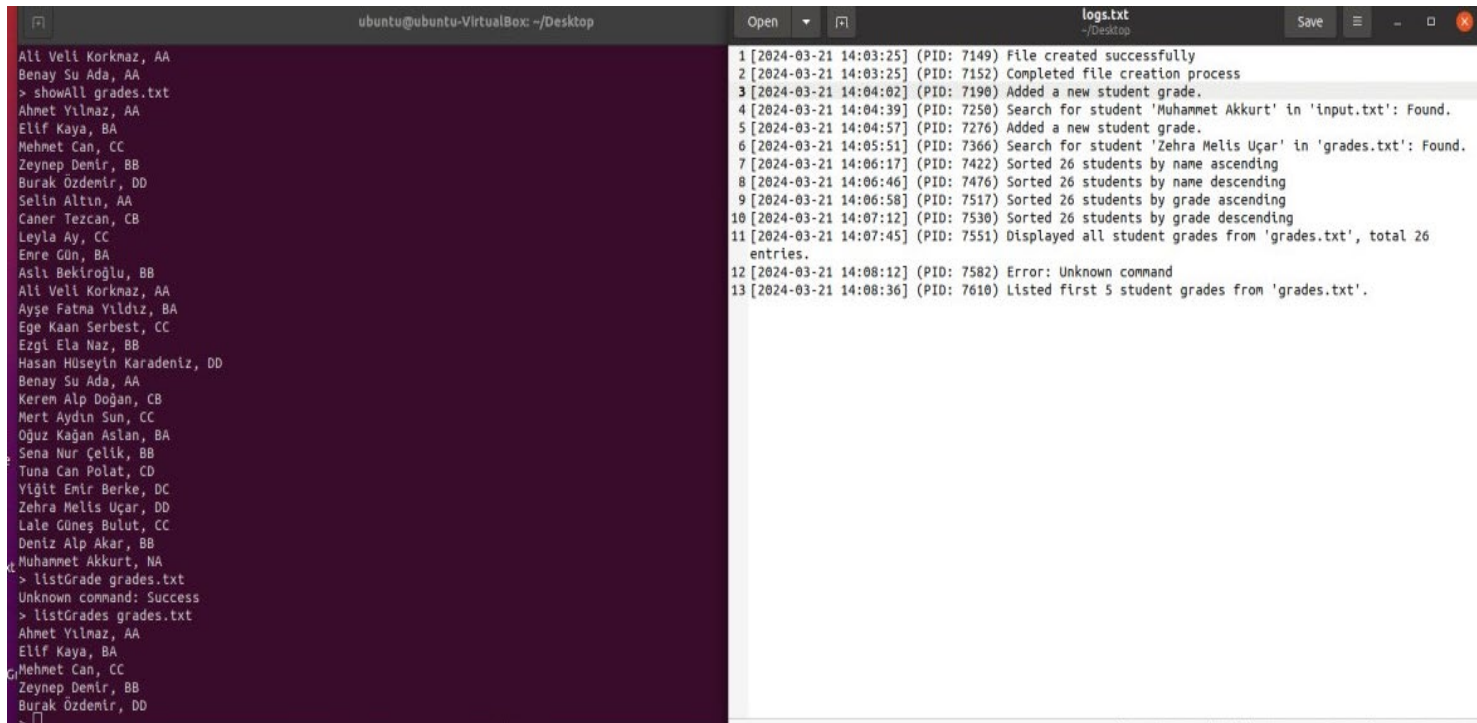


The screenshot shows a terminal window with the prompt 'ubuntu@ubuntu-VirtualBox: ~/Desktop'. The terminal displays a list of 26 student names and their grades, followed by the command '> showAll grades.txt'. The output shows the same list of names and grades. To the right, a log file 'logs.txt' is open, showing a series of log entries from 2024-03-21 14:03:25 to 14:07:45. The log entries include file creation, grade addition, search for student 'Muhammet Akkurt', search for student 'Zehra Melis Uçar', sorting students by name and grade, and displaying all student grades from 'grades.txt'.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop
Sena Nur Çelik, BB
Deniz Alp Akar, BB
Elif Kaya, BA
Emre Gün, BA
Ayşe Fatma Yıldız, BA
Oğuz Kağan Aslan, BA
Ahmet Yılmaz, AA
Selin Altın, AA
Ali Veli Korkmaz, AA
Benay Su Ada, AA
> showAll grades.txt
Ahmet Yılmaz, AA
Elif Kaya, BA
Mehmet Can, CC
Zeynep Demir, BB
Burak Özdemir, DD
Selin Altın, AA
Cano Tezcan, CB
Leyla Ay, CC
Emre Gün, BA
Aslı Bekiroğlu, BB
Ali Veli Korkmaz, AA
Ayşe Fatma Yıldız, BA
Ege Kaan Serbest, CC
Ezgi Ela Naz, BB
Hasan Hüseyin Karadeniz, DD
Benay Su Ada, AA
Kerem Alp Doğan, CB
Mert Aydın Sun, CC
Oğuz Kağan Aslan, BA
Sena Nur Çelik, BB
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
Muhammet Akkurt, NA
>

logs.txt
~/Desktop
Save
1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Uçar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending
8 [2024-03-21 14:06:46] (PID: 7476) Sorted 26 students by name descending
9 [2024-03-21 14:06:58] (PID: 7517) Sorted 26 students by grade ascending
10 [2024-03-21 14:07:12] (PID: 7530) Sorted 26 students by grade descending
11 [2024-03-21 14:07:45] (PID: 7551) Displayed all student grades from 'grades.txt', total 26 entries.
```

To use the "listGrades" command, after typing the file name, the first 5 entries in the file are printed on the terminal.



The screenshot shows a terminal window with the prompt 'ubuntu@ubuntu-VirtualBox: ~/Desktop'. The terminal displays a list of 26 student names and their grades, followed by the command '> listGrade grades.txt'. The output shows the same list of names and grades. To the right, a log file 'logs.txt' is open, showing a series of log entries from 2024-03-21 14:03:25 to 14:08:36. The log entries include file creation, grade addition, search for student 'Muhammet Akkurt', search for student 'Zehra Melis Uçar', sorting students by name and grade, displaying all student grades from 'grades.txt', and an error message 'Unknown command'.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop
Ali Veli Korkmaz, AA
Benay Su Ada, AA
> showAll grades.txt
Ahmet Yılmaz, AA
Elif Kaya, BA
Mehmet Can, CC
Zeynep Demir, BB
Burak Özdemir, DD
Selin Altın, AA
Cano Tezcan, CB
Leyla Ay, CC
Emre Gün, BA
Aslı Bekiroğlu, BB
Ali Veli Korkmaz, AA
Ayşe Fatma Yıldız, BA
Ege Kaan Serbest, CC
Ezgi Ela Naz, BB
Hasan Hüseyin Karadeniz, DD
Benay Su Ada, AA
Kerem Alp Doğan, CB
Mert Aydın Sun, CC
Oğuz Kağan Aslan, BA
Sena Nur Çelik, BB
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
Muhammet Akkurt, NA
> listGrade grades.txt
Unknown command: Success
> listGrades grades.txt
Ahmet Yılmaz, AA
Elif Kaya, BA
Mehmet Can, CC
Zeynep Demir, BB
Burak Özdemir, DD
>

logs.txt
~/Desktop
Save
1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Uçar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending
8 [2024-03-21 14:06:46] (PID: 7476) Sorted 26 students by name descending
9 [2024-03-21 14:06:58] (PID: 7517) Sorted 26 students by grade ascending
10 [2024-03-21 14:07:12] (PID: 7530) Sorted 26 students by grade descending
11 [2024-03-21 14:07:45] (PID: 7551) Displayed all student grades from 'grades.txt', total 26 entries.
12 [2024-03-21 14:08:12] (PID: 7582) Error: Unknown command
13 [2024-03-21 14:08:36] (PID: 7610) Listed first 5 student grades from 'grades.txt'.
```

After typing the entry number and page number in the "listSome" comment, you should write the file name. With this command, the entries in the specified lines are printed on the terminal.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop

Aslı Bekiroğlu, BB
Ali Veli Korkmaz, AA
Ayşe Fatma Yıldız, BA
Ege Kaan Serbest, CC
Ezgi Ela Naz, BB
Hasan Hüseyin Karadeniz, DD
Benay Su Ada, AA
Kerem Alp Doğan, CB
Mert Aydın Sun, CC
Oğuz Kağan Aslan, BA
Sena Nur Çelik, BB
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
Muhammet Akkurt, NA
> listGrade grades.txt
Unknown command: Success
> listGrades grades.txt
Ahmet Yılmaz, AA
Elif Kaya, BA
Mehmet Can, CC
Zeynep Demir, BB
Burak Özdemir, DD
> listSome 5 2 grades.txt
Selin Altın, AA
Caner Tezcan, CB
Leyla Ay, CC
Enre Gün, BA
Aslı Bekiroğlu, BB
> listSome 5 5 grades.txt
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
> █
```

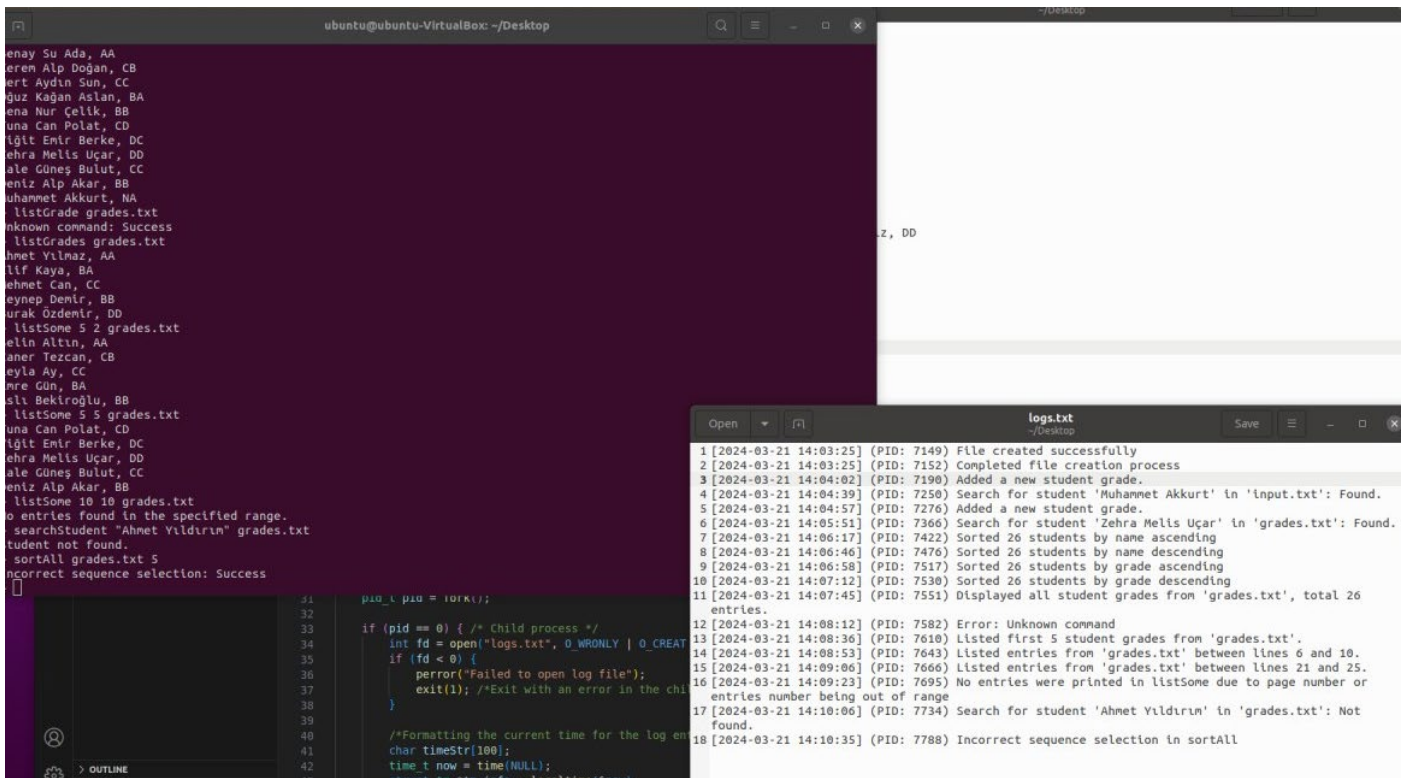
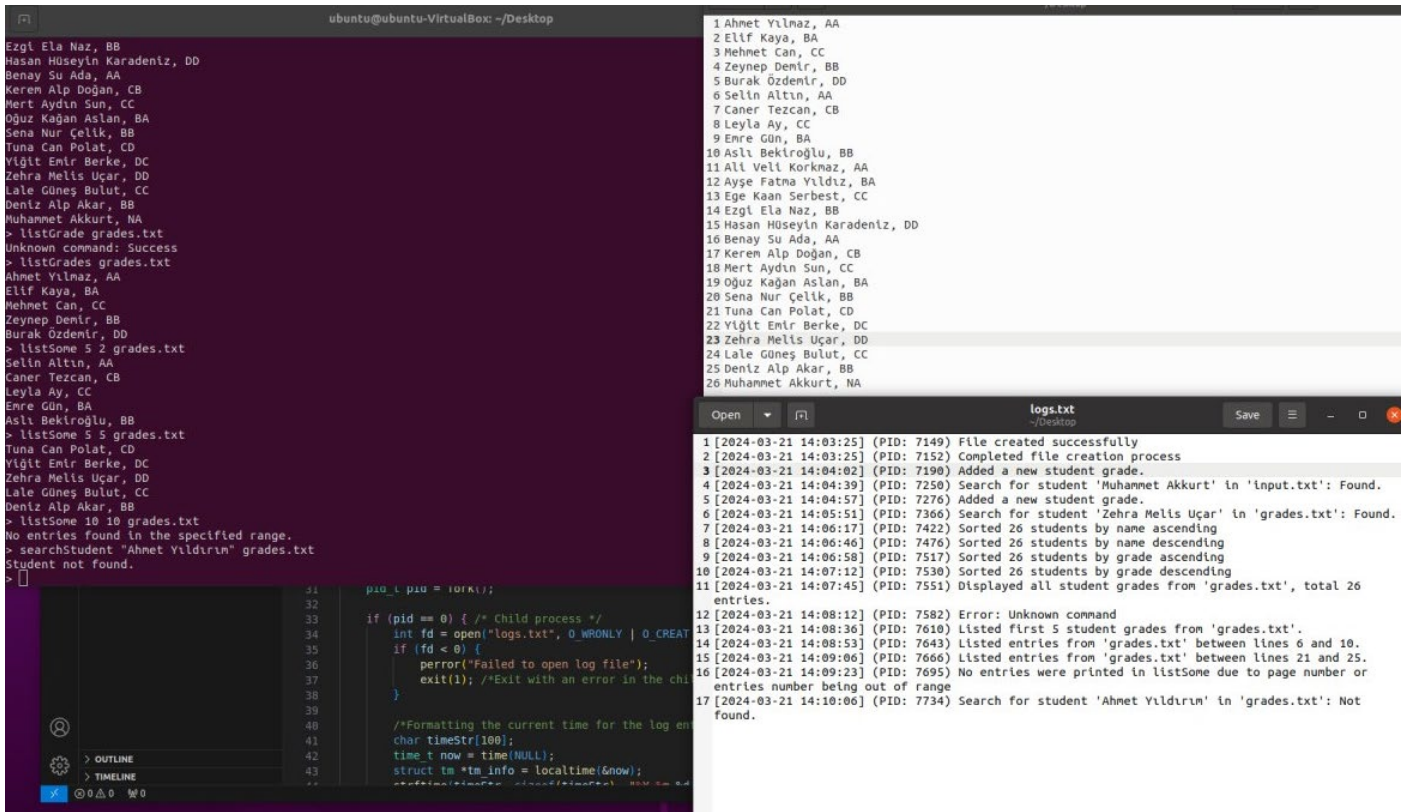
```
logs.txt
~/Desktop
1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Uçar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending
8 [2024-03-21 14:06:46] (PID: 7476) Sorted 26 students by name descending
9 [2024-03-21 14:06:58] (PID: 7517) Sorted 26 students by grade ascending
10 [2024-03-21 14:07:12] (PID: 7530) Sorted 26 students by grade descending
11 [2024-03-21 14:07:45] (PID: 7551) Displayed all student grades from 'grades.txt', total 26 entries.
12 [2024-03-21 14:08:12] (PID: 7582) Error: Unknown command
13 [2024-03-21 14:08:36] (PID: 7610) Listed first 5 student grades from 'grades.txt'.
14 [2024-03-21 14:08:53] (PID: 7643) Listed entries from 'grades.txt' between lines 6 and 10.
15 [2024-03-21 14:09:06] (PID: 7666) Listed entries from 'grades.txt' between lines 21 and 25.
```

Student Grade Management System logs "log.txt" for each process. It handles error situations and informs the user through logging.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop

Ayşe Fatma Yıldız, BA
Ege Kaan Serbest, CC
Ezgi Ela Naz, BB
Hasan Hüseyin Karadeniz, DD
Benay Su Ada, AA
Kerem Alp Doğan, CB
Mert Aydın Sun, CC
Oğuz Kağan Aslan, BA
Sena Nur Çelik, BB
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
Muhammet Akkurt, NA
> listGrade grades.txt
Unknown command: Success
> listGrades grades.txt
Ahmet Yılmaz, AA
Elif Kaya, BA
Mehmet Can, CC
Zeynep Demir, BB
Burak Özdemir, DD
> listSome 5 2 grades.txt
Selin Altın, AA
Caner Tezcan, CB
Leyla Ay, CC
Enre Gün, BA
Aslı Bekiroğlu, BB
> listSome 5 5 grades.txt
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
> listSome 10 10 grades.txt
No entries found in the specified range.
> █
```

```
logs.txt
~/Desktop
1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Uçar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending
8 [2024-03-21 14:06:46] (PID: 7476) Sorted 26 students by name descending
9 [2024-03-21 14:06:58] (PID: 7517) Sorted 26 students by grade ascending
10 [2024-03-21 14:07:12] (PID: 7530) Sorted 26 students by grade descending
11 [2024-03-21 14:07:45] (PID: 7551) Displayed all student grades from 'grades.txt', total 26 entries.
12 [2024-03-21 14:08:12] (PID: 7582) Error: Unknown command
13 [2024-03-21 14:08:36] (PID: 7610) Listed first 5 student grades from 'grades.txt'.
14 [2024-03-21 14:08:53] (PID: 7643) Listed entries from 'grades.txt' between lines 6 and 10.
15 [2024-03-21 14:09:06] (PID: 7666) Listed entries from 'grades.txt' between lines 21 and 25.
16 [2024-03-21 14:09:23] (PID: 7695) No entries were printed in listSome due to page number or entries number being out of range
```




```
ubuntu@ubuntu-VirtualBox: ~/Desktop

Kerem Alp Doğan, CB
Mert Aydın Sun, CC
Oğuz Kağan Aslan, BA
Sena Nur Çelik, BB
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
Muhammet Akkurt, NA
> listGrade grades.txt
Unknown command: Success
> listGrades grades.txt
Ahmet Yılmaz, AA
Elif Kaya, BA
Mehmet Can, CC
Zeynep Demir, BB
Burak Özdemir, DD
> listSome 5 2 grades.txt
Selin Altın, AA
Caner Tezcan, CB
Leyla Ay, CC
Emre Gün, BA
Aslı Bekiroğlu, BB
> listSome 5 5 grades.txt
Tuna Can Polat, CD
Yiğit Emir Berke, DC
Zehra Melis Uçar, DD
Lale Güneş Bulut, CC
Deniz Alp Akar, BB
> listSome 10 10 grades.txt
No entries found in the specified range.
> searchStudent "Ahmet Yıldırım" grades.txt
Student not found.
> sortAll grades.txt 5
Incorrect sequence selection: Success
> exit
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

```
31  pid_t pid = fork();
32
33  if (pid == 0) { /* Child process */
34      int fd = open("logs.txt", O_WRONLY | O_CREAT
35      if (fd < 0) {
36          perror("Failed to open log file");
37          exit(1); /*Exit with an error in the chi
38      }
39
40      /*Formatting the current time for the log en
41      char timeStr[100];
42      time_t now = time(NULL);
43      struct tm *tm_info = localtime(&now);
```

```
logs.txt
~/Desktop
Save

1 [2024-03-21 14:03:25] (PID: 7149) File created successfully
2 [2024-03-21 14:03:25] (PID: 7152) Completed file creation process
3 [2024-03-21 14:04:02] (PID: 7190) Added a new student grade.
4 [2024-03-21 14:04:39] (PID: 7250) Search for student 'Muhammet Akkurt' in 'input.txt': Found.
5 [2024-03-21 14:04:57] (PID: 7276) Added a new student grade.
6 [2024-03-21 14:05:51] (PID: 7366) Search for student 'Zehra Melis Uçar' in 'grades.txt': Found.
7 [2024-03-21 14:06:17] (PID: 7422) Sorted 26 students by name ascending
8 [2024-03-21 14:06:46] (PID: 7476) Sorted 26 students by name descending
9 [2024-03-21 14:06:58] (PID: 7517) Sorted 26 students by grade ascending
10 [2024-03-21 14:07:12] (PID: 7530) Sorted 26 students by grade descending
11 [2024-03-21 14:07:45] (PID: 7551) Displayed all student grades from 'grades.txt', total 26
    entries.
12 [2024-03-21 14:08:12] (PID: 7582) Error: Unknown command
13 [2024-03-21 14:08:36] (PID: 7610) Listed first 5 student grades from 'grades.txt'.
14 [2024-03-21 14:08:53] (PID: 7643) Listed entries from 'grades.txt' between lines 6 and 10.
15 [2024-03-21 14:09:06] (PID: 7666) Listed entries from 'grades.txt' between lines 21 and 25.
16 [2024-03-21 14:09:23] (PID: 7695) No entries were printed in listSome due to page number or
    entries number being out of range
17 [2024-03-21 14:10:06] (PID: 7734) Search for student 'Ahmet Yıldırım' in 'grades.txt': Not
    found.
18 [2024-03-21 14:10:35] (PID: 7788) Incorrect sequence selection in sortAll
19 [2024-03-21 14:10:53] (PID: 7819) The program was terminated.
```