

DOKUZ EYLUL UNIVERSITY
COMPUTER ENGINEERING DEPARTMENT

SEARCHING MOVIES
CME 1203 Introduction to Computer Engineering
Project Report

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December 2018

IZMIR

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1 Introduction

In this project, I wrote a Python program that searches movies. I used lists, sets, and functions in Python. Firstly, my program reads movies' data from file and assigns them to appropriate data structure. Then the program displays menu to get user input and performs corresponding task. In this project, I encountered some problems and I composed solution strategies to solve this problems.

1.1 Problem Definition

First problem that I encountered is how to read csv file and put the datas in a appropriate data structure that I can some process. To solve this problem, I looked slides that upload by our teachers and found how to solve this problem. After that, I saw last movies on the line has '\n' character, that created a problem to find films according to user's input. I researched how I can solve this problem on the internet and finally I solved that. I will explain my solution strategies for those problems in solution strategy section.

1.2 Solution Strategy

Firstly, I knew that I had to put line by line the data's in movie.csv into the list. Thus, the process of solving tasks has become much more easier. I imported csv module and created a function and a list to stored the datas and put the data into list by splitting according to ',' character. After, I used split() method to solve '\n' problem on the last films in a line. Then, I started to think that how can I execute tasks and I developed an algorithm that I can use in all of tasks. Firstly, I took an input from user and the I searched this input in the list that I initialize by using nested loops. And then, if I found what I want according to task, I printed results to the screen and put another list that using in saving as outputfile.txt.

2 Method

Function: I've used special functions for every task, but those functions's contents ara similar highly.

List: I've used some lists to store data and do some operations on it. Also I've used them for saving aas outputfile.txt

Set: I've used set for task 4,5 and 6 because those tasks need to some set operations like union,intersection...

Module: I've used for reading csv file

.split(): I've used for seperating the datas in csv file to put a list

.strip(): I've used split() method to solve '\n' problem on the last films in a line.

Boolean: I've used for controlling the existence of input in list.

In task 1, I took an input from user and then for dynamization of input I used .title() method this method convert the first letter of a word upper. And then according to input, I scan the list

if any data as input is there, I started to find the films of entered actors by using nested for loops on list.

In task 2, I took an input from user and then for dynamization of input I used `.title()` method this method convert the first letter of a word upper. And then according to input, I scan the list if any data as input is there, I started to find entered actor by using for loop. After I found it, I put a temp variable first film on its line, and then again I started to scan the list using for loop, when I foun film that on temp variable, I took the first data on that line so, actor name. And finally, I printed it to the screen and put it another list for saving process.

In task 3, I took an input from user and then for dynamization of input I used `.title()` method this method convert the first letter of a word upper. And then according to input, I scan the list if any data as input is there, I started to find entered film by using for loop. After I found it, I took the first data on that line so, actor name. And finally, I printed it to the screen and put it another list for saving process.

In task 4, I took two input from user and then for dynamization of input, I used `.title()` method this method convert the first letter of a word upper. And then according to input, I scan the list if any data as input is there, I started to find entered film by using for loop. After I found it, I took the first data on that line so, actor name. And finally, I put it into a set for sets operations and then I did same process for second input. After all that I used `.union()` set method and printed the result to the screen.

In task 5, I took two input from user and then for dynamization of input, I used `.title()` method this method convert the first letter of a word upper. And then according to input, I scan the list if any data as input is there, I started to find entered film by using for loop. After I found it, I took the first data on that line so, actor name. And finally, I put it into a set for sets operations and then I did same process for second input. After all that I used `.intersection()` set method and printed the result to the screen.

In task 6, I took two input from user and then for dynamization of input, I used `.title()` method this method convert the first letter of a word upper. And then according to input, I scan the list if any data as input is there, I started to find entered film by using for loop. After I found it, I took the first data on that line so, actor name. And finally, I put it into a set for sets operations and then I did same process for second input. After all that I used `.difference()` set method and printed the result to the screen.

In task 7, I wrote the datas that I stored in every task for this process to an output.txt file by using reading and writing file method.

3 Results

There are some results of my program tasks' as table and screenshot.

1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
- 0.Exit.(Press 0)

6

Enter first movie (ex: Se7en): **Fight Club**
Enter second movie (ex: Se7en): **Se7en**
Kevin Spacey
Helena Bonham Carter
Gwyneth Paltrow
Edward Norton
Morgan Freeman

Press any key for back to the menu

-----SEARCHING MOVIES-----

1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
- 0.Exit.(Press 0)

1

Enter an actor or actress name (ex: Edward Norton): **Kevin Spacey**
American Beauty
The Usual Suspects
Glengarry Glen Ross
L.A. Confidential
A Time to Kill
Se7en
The Negotiator

Press any key for back to the menu

|

Table 1: Movie searching test cases

| Task | User input | Displayed Result |
|------------------|--------------------------------|--|
| Task 1 Case 1 | “Brad Pitt” | Movies of “Brad Pitt” are “Sleepers”, “Troy”, “Meet Joe Black”, “Oceans Eleven”, “Se7en”, “Mr & Mrs Smith”, “The Curious Case of Benjamin Button”, “Fight Club”, “Cool World”, “Interview with the Vampire: The Vampire Chronicles Twelve Monkeys”, “Inglourious Basterds” |
| Task 2 Case 1 | “Edward Norton” | all actors or actresses with whom “Edward Norton” has acted are “Brad Pitt”, “Helena Bonham Carter”, “Salma Hayek” |
| Task 3 Case 1 | “The Godfather” | all actors and actresses in “The Godfather” are “Al Pacino”, “Robert De Niro”, “Marlon Brando”, “Diane Keaton” |
| Task 4 Case 1 | “Fight Club” “Pulp Fiction” | all actors and actresses in “Fight Club” and “Pulp Fiction” are “Bruce Willis”, “Helena Bonham Carter”, “Brad Pitt”, “Edward Norton”, “John Travolta”, “Samuel L. Jackson”, “Uma Thurman”, |
| Task 5 Case 1 | “Fight Club”, “Se7en” | common actors and actresses in “Fight Club” and “Se7en” are “Brad Pitt” |
| Task 6 Case 1 | “Se7en” “Pulp Fiction” | all actors and actresses in either of the movies “Pulp Fiction” and “Se7en” are “Morgan Freeman”, “Gwyneth Paltrow”, “Kevin Spacey”, “John Travolta”, “Brad Pitt”, “Samuel L. Jackson”, “Bruce Willis”, “Uma Thurman” |
| Task 6 Case 2 | “Fight Club”, “Se7en” | all actors and actresses in either of the movies “Fight Club” and “Se7en” are Edward Norton, Helena Bonham Carter, Morgan Freeman, Gwyneth Paltrow, Kevin Spacey |

4 Conclusion and Discussion

In this project I learned data structures and file operations as well in Python.

5 Bibliography

[1] <https://sites.google.com/site/egitimbilgileri/home/a---python---twisted---qt/03---string-islemleri>

[2] <https://stackoverflow.com/>

6 Appendices

6.1 Appendix A: Code

```
import csv
```

```
with open("movies.csv") as f:
```

```
lines=[line.split(" ") for line in f]
```

```
x=len(lines)
```

```
for i in range(0,x):
```

```
    k=len(lines[i])
```

```
    for j in range(0,k):
```

```
        lines[i][j]=lines[i][j].strip()
```

```
temp = lines[0][0]
```

```
temp=temp[3:len(temp)]
```

```
lines[0][0]=temp
```

```
#function that using to separate titles in menu
```

```
def reagent():
```

```
    print ('-----')
```

```
#function that using to separate titles in menu
```

```
#function for task 1
```

```
def task1():
```

```
    global control
```

```
    control=False
```

```
    actor=input('Enter an actor or actress name (ex: Edward Norton): ')
```

```
    if any(ch.isdigit() for ch in actor)==False:
```

```
        if actor.istitle()==False:
```

```
            actor=actor.title()
```

```
    global savetask1
```

```
    global givenActor1
```

```

savetask1=list()

givenActor1=actor

actorNumbers=len(lines)

for i in range(0,actorNumbers):

    if actor == lines[i][0]:

        control=True

if control==True:

    print("All movies of " +actor+": ")

    for i in range(0,actorNumbers):

        if actor == lines[i][0]:

            actorNamePosition=lines[i].index(actor)

            filmNumber=len(lines[i])

            for y in range(actorNamePosition+1,filmNumber):

                print(lines[i][y])

                savetask1.append(lines[i][y])

        else:

            print('Entered actor or actress not found.')

```

#function for task 1

#function for task 2

```

def task2():

    global control

    control=False

    actor=input('Enter an actor or actress name (ex: Edward Norton): ')

    if any(ch.isdigit() for ch in actor)==False:

        if actor.istitle()==False:

```



```

        actor=actor.title()

global savetask2
savetask2=list()

global givenActor2
givenActor2=actor
actorNumbers=len(lines)

for i in range(0,actorNumbers):

    if actor == lines[i][0]:

        control=True

if control==True:

    print("All the actors or actresses with whom " +actor+" has acted.: ")

    for i in range(0,actorNumbers):

        if(actor.title() == lines[i][0]):

            actorNamePosition=lines[i].index(actor)

            filmNumber=len(lines[i])

            for y in range(actorNamePosition+1,filmNumber):

                temp=lines[i][y]

                for k in range(0, actorNumbers):

                    filmNumber=len(lines[k])

                    for j in range(0,filmNumber):

                        if(temp ==lines[k][j] and actor!=lines[k][0]):

                            print(lines[k][0])

                            savetask2.append(lines[k][0])

            else:

                print('Entered actor or actress not found.')

#function for task 2

```

```

#function for task 3

def task3():

    global control

    control=False

    global savetask3

    global givenFilm3

    savetask3=list()

    film=input('Enter a movie (ex: Se7en): ')

    if any(ch.isdigit() for ch in film)==False:

        if film.istitle()==False:

            film=film.title()

        givenFilm3=film

    filmNumbers=len(lines)

    for i in range(0,filmNumbers):

        filmLength=len(lines[i])

        for k in range(1,filmLength):

            if film==lines[i][k]:

                control=True

    if control==True:

        print("All actors and actresses in " +film+": ")

        for i in range(0,filmNumbers):

            filmLength=len(lines[i])

            for k in range(1,filmLength):

                if film==lines[i][k]:

                    print(lines[i][0])

                    savetask3.append(lines[i][0])

```

else:

print('Entered film not found. Please enter again')

#function for task 3

#function for initializing of task 4,5 and 6

def setTasksFirstMovie():

control=False

global firstFilm

global actorFirstFilm

actorFirstFilm=set()

firstFilm=input('Enter first movie (ex: Se7en): ')

if any(ch.isdigit() for ch in firstFilm)==False:

if firstFilm.istitle()==False:

firstFilm=firstFilm.title()

filmNumbers=len(lines)

for i in range(0,filmNumbers):

filmLength=len(lines[i])

for k in range(1,filmLength):

if firstFilm==lines[i][k]:

control=True

if control==True:

for i in range(0,filmNumbers):

filmLength=len(lines[i])

for k in range(1,filmLength):

if firstFilm==lines[i][k]:

```
actorFirstFilm.add(lines[i][0])
```

```
else:
```

```
    print('Entered film not found. Please enter again')
```

```
    setTasksFirstMovie()
```

```
def setTasksSecondMovie():
```

```
    control=False
```

```
    global secondFilm
```

```
    global actorSecondFilm
```

```
    actorSecondFilm=set()
```

```
    secondFilm=input('Enter second movie (ex: Se7en): ')
```

```
    if any(ch.isdigit() for ch in secondFilm)==False:
```

```
        if secondFilm.istitle()==False:
```

```
            secondFilm=secondFilm.title()
```

```
    filmNumbers=len(lines)
```

```
    for i in range(0,filmNumbers):
```

```
        filmLength=len(lines[i])
```

```
        for k in range(1,filmLength):
```

```
            if secondFilm==lines[i][k]:
```

```
                control=True
```

```
    if control==True:
```

```
        for i in range(0,filmNumbers):
```

```
            filmLength=len(lines[i])
```

```
            for k in range(1,filmLength):
```

```
                if secondFilm==lines[i][k]:
```

```
                    actorSecondFilm.add(lines[i][0])
```

```

else:

    print('Entered film not found. Please enter again')

    setTasksSecondMovie()

#function for initializing of task 4,5 and 6


#function for task 4
def task4():

    global savetask4

    global givenFilm4First

    global givenFilm4Second

    setTasksFirstMovie()

    setTasksSecondMovie()

    givenFilm4First=firstFilm

    givenFilm4Second=secondFilm

    actorsOfTwoMovies=set()

    actorsOfTwoMovies=actorSecondFilm.union(actorFirstFilm)

    savetask4=list(actorsOfTwoMovies)

    print("All actors and actresses in " +firstFilm+" and " +secondFilm+": ")

    for item in actorsOfTwoMovies:

        print(item)

#function for task 4


#function for task 5
def task5():

    global savetask5

    global givenFilm5First

    global givenFilm5Second

```

```

setTasksFirstMovie()

setTasksSecondMovie()

givenFilm5First=firstFilm

givenFilm5Second=secondFilm

actorsOfTwoMovies=set()

actorsOfTwoMovies=actorSecondFilm.intersection(actorFirstFilm)

savetask5=list(actorsOfTwoMovies)

print("Common actors and actresses in " +firstFilm+" and " +secondFilm+": ")

for item in actorsOfTwoMovies:

    print(item)

if len(savetask4) == 0:

    print('There is no any common actor between two movies.')

#function for task 5

#function for task 6

def task6():

    global savetask6

    global givenFilm6First

    global givenFilm6Second

    setTasksFirstMovie()

    setTasksSecondMovie()

    givenFilm6First=firstFilm

    givenFilm6Second=secondFilm

    difference1=set()

    difference2=set()

    actorsOfTwoMovies=set()

    difference1=actorSecondFilm.difference(actorFirstFilm)

```

```

difference2=actorFirstFilm.difference(actorSecondFilm)

actorsOfTwoMovies=difference1.union(difference2)

savetask6=list(actorsOfTwoMovies)

print("all actors and actresses in either of the movies " +firstFilm+" and "
+secondFilm+": ")

    for item in actorsOfTwoMovies:

        print(item)

#function for task 6

#function for task 7

def task7():

    save=open("savefile.txt", "w")

    save.write("-----\n")

    save.write("1. List all movies of given actor or actress.\n")

    save.write("-----\n")

    save.write("Given actor or actress's name: ")

    save.write(givenActor1)

    save.write("\n")

    save.write("Result:\n")

    k=len(savetask1)

    for i in range(0,k):

        temp=savetask1[i]

        save.write(temp)

        save.write("\n")

    save.write("-----\n")

    save.write("2. Given an actor or actress's name, find all the actors or actresses with
whom he/she has acted.\n")

    save.write("-----\n")

```

```

save.write("Given actor or actress's name: ")

save.write(givenActor2)

save.write("\n")

save.write("Result:\n")

k=len(savetask2)

for i in range(0,k):

    temp=savetask2[i]

    save.write(temp)

    save.write("\n")

save.write("-----\n")

save.write("3. List all actors and actresses in a movie.\n")

save.write("-----\n")

save.write("Given movie: ")

save.write(givenFilm3)

save.write("\n")

save.write("Result:\n")

k=len(savetask2)

for i in range(0,k):

    temp=savetask2[i]

    save.write(temp)

    save.write("\n")

save.write("-----\n")

save.write("4. List all actors and actresses in two movies.\n")

save.write("-----\n")

save.write("Given first movie: ")

save.write(givenFilm4First)

save.write("\n")

```



```

save.write("Given second movie: ")

save.write(givenFilm4Second)

save.write("\n")

save.write("Result:\n")

k=len(savetask4)

for i in range(0,k):

    temp=savetask4[i]

    save.write(temp)

    save.write("\n")

save.write("-----\n")

save.write("5. List common actors and actresses in two movies.\n")

save.write("-----\n")

save.write("Given first movie: ")

save.write(givenFilm5First)

save.write("\n")

save.write("Given second movie: ")

save.write(givenFilm5Second)

save.write("\n")

save.write("Result:\n")

k=len(savetask5)

for i in range(0,k):

    temp=savetask5[i]

    save.write(temp)

    save.write("\n")

save.write("-----\n")

save.write("6. List all actors and actresses in either of the movies but not both.\n")

save.write("-----\n")

```

```

save.write("Given first movie: ")

save.write(givenFilm6First)

save.write("\n")

save.write("Given second movie: ")

save.write(givenFilm6Second)

save.write("\n")

save.write("Result:\n")

k=len(savetask6)

for i in range(0,k):

    temp=savetask6[i]

    save.write(temp)

    save.write("\n")

#function for task 7

#function for menu

def menu():

    print('-----SEARCHIN MOVIES-----')
    -----')

    print('1. List all movies of given actor or actress.(Press 1)')

    print("2. Given an actor or actress's name, find all the actors or actresses with whom
he/she has acted.(Press 2)")

    print('3. List all actors and actresses in a movie.(Press 3)')

    print('4. List all actors and actresses in two movies.(Press 4)')

    print('5. List common actors and actresses in two movies.(Press 5)')

    print('6. List all actors and actresses in either of the movies but not both.(Press 6)')

    print('7. Save results to a file.(Press 7)')

    print('0.Exit.(Press 0)')

    menuChooser=input()

```

```
if menuChooser == '1':  
    reagent()  
    task1()  
    reagent()  
    print('Press any key for back to the menu')  
    input()  
    menu()
```

```
elif menuChooser == '2':  
    reagent()  
    task2()  
    reagent()  
    print('Press any key for back to the menu')  
    input()  
    menu()
```

```
elif menuChooser == '3':  
    reagent()  
    task3()  
    reagent()  
    print('Press any key for back to the menu')  
    input()  
    menu()
```

```
elif menuChooser == '4':  
    reagent()  
    task4()  
    reagent()  
    print('Press any key for back to the menu')  
    input()
```

```
        menu()
elif menuChooser == '5':
    reagent()
    task5()
    reagent()
    print('Press any key for back to the menu')
    input()
    menu()
elif menuChooser == '6':
    reagent()
    task6()
    reagent()
    print('Press any key for back to the menu')
    input()
    menu()
elif menuChooser == '7':
    task7()
    print('Datas saved successfully.')
elif menuChooser == '0':
    exit()
else:
    menu()

#function for menu

menu()
```

6.2 Appendix B: Screenshots

```
-----SEARCHIN MOVIES-----
1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
0.Exit.(Press 0)

1
-----
Enter an actor or actress name (ex: Edward Norton): brad pitt
All movies of Brad Pitt:
Sleepers
Troy
Meet Joe Black
Oceans Eleven
Se7en
Mr & Mrs Smith
The Curious Case of Benjamin Button
Fight Club
Cool World
Interview with the Vampire: The Vampire Chronicles Twelve Monkeys
Inglourious Basterds
Press any key for back to the menu

-----SEARCHIN MOVIES-----
1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
0.Exit.(Press 0)

2
-----
Enter an actor or actress name (ex: Edward Norton): edward norton
All the actors or actresses with whom Edward Norton has acted:
Brad Pitt
Helena Bonham Carter
Salma Hayek
-----
Press any key for back to the menu
|
```


-----SEARCHIN MOVIES-----

1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
- 0.Exit.(Press 0)

3

Enter a movie (ex: Se7en): **Pulp Fiction**

All actors and actresses in Pulp Fiction:

John Travolta
Samuel L. Jackson
Uma Thurman
Bruce Willis

Press any key for back to the menu

-----SEARCHIN MOVIES-----

1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
- 0.Exit.(Press 0)

4

Enter first movie (ex: Se7en): **The Godfather**

Enter second movie (ex: Se7en): **Fight club**

All actors and actresses in The Godfather and Fight Club:

Helena Bonham Carter
Edward Norton
Robert De Niro
Brad Pitt
Marlon Brando
Diane Keaton
Al Pacino

Press any key for back to the menu

-----SEARCHIN MOVIES-----

1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
- 0.Exit.(Press 0)

5

Enter first movie (ex: Se7en): **Se7en**

Enter second movie (ex: Se7en): **Fight Club**

Common actors and actresses in Se7en and Fight Club:
Brad Pitt

Press any key for back to the menu


```

-----SEARCHIN MOVIES-----
1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
0.Exit.(Press 0)
6
-----
Enter first movie (ex: Se7en): The Avengers
Enter second movie (ex: Se7en): Pulp Fiction
all actors and actresses in either of the movies The Avengers and Pulp Fiction:
John Travolta
Bruce Willis
-----
Press any key for back to the menu
|

```

```

-----SEARCHIN MOVIES-----
1. List all movies of given actor or actress.(Press 1)
2. Given an actor or actress's name, find all the actors or actresses with whom he/she has acted.(Press 2)
3. List all actors and actresses in a movie.(Press 3)
4. List all actors and actresses in two movies.(Press 4)
5. List common actors and actresses in two movies.(Press 5)
6. List all actors and actresses in either of the movies but not both.(Press 6)
7. Save results to a file.(Press 7)
0.Exit.(Press 0)
7
Datas saved successfully.

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