

MTM1512 Programming Language 2 Homework

Due: 23.59 August 22 2023

Hand-in Policy: Via Online Yildiz. No late submissions will be accepted.

Collaboration Policy: No collaboration is permitted.

Grading: This homework will be graded on the scale of 100

Description:

Write a complete program achieving all the tasks below.

The program takes a single argument as the name of the file to be read. A sample file is attached (movie.txt). The program reads this file which has labeled columns separated by semi-colon (;). Every row of this text file includes information about a movie. You are asked to read every row as a string and decompose the given information (separated by semi-colon).

Hint: you can search `int main(int argc, char *argv[])` properties. For separating lines learn and use `strtok` function.

The program should keep the movies in two dynamic arrays whose nodes are named as `Budget` and `Name`.

In `Budget`, there should be five components; budget and year are kept as integers, and the name, title, titletype and top250 are stored as strings.

```
struct Budget
{
    int budget;
    int year;
    char *title;
    char *titletype;
    char *top250;
};
```

In `Name` there should be seven fields; genre and directors are stored as string arrays (note that these can have more than one string and these are separated by comma), title, mustsee, url are stored as string and rating is stored as double.

```
struct Name
{
    char **genre;
    char *title;
    char **directors;
    char *mustsee;
    int votes;
    char *url;
};
```

In the Budget array, elements are inserted and kept in descending order by year. If years are the same, it should keep elements according to their budget in descending order. If these two values are the same, you can choose an arbitrary order among them. There should be exactly the same number of elements in these lists as the number of lines in the file.

The program should keep the all strings (can be of arbitrary length) in dynamically allocated strings.

Note that the number of movies in the Movies.txt file is unknown. This means the user can test your program by different number of movies.

The program should support 6 different operations. Therefore, there should be a menu like the one below. The program should be terminated if and only if the user enters "7" as input. If an entry is invalid or the previously requested action has been taken, the menu should appear repeatedly. If the menu appears due to an invalid entry, there should also be an error message.

5 Operations as follows:

1. List of budget array
2. List of name array
3. Write sorted budget array elements to budget.txt file. All elements should be separated by semi comma (;)
4. Write sorted list array elements to list.txt file. All elements should be separated by semi comma (;)
5. All Information of a Single Movie
6. Frequency of the Genres
7. Exit