CS 2050 Lab Assignment 1 – Faill 2014
*** FAILURE TO RETURN THIS DOCUMENT TO THE TA WILL RESULT IN A ZERO GRADE FOR THE LAB ***

Directions:

Complete the following lab assignment using the description given in each section. Be sure to comment your program; otherwise you may lose up to 5 points. You must use proper indent styles; otherwise you may lose up to 5 points.

Purpose:

- File I/O
- Functions
- Arrays
- Structs

Submission information:

Submit this assignment by following the instructions given by your lab assistant. It must be submitted before the end of the lab USING THE CODE THE TA GIVES YOU. Not doing so WILL result in a zero, no exceptions.

Description:

You are to implement a program that parses an input file and extracts meaningful information from it.

Add the following to the top of your program:

```
typedef struct {
   char[20] title;
   int yearReleased;
   int sales;
   int ticketsSold;
} Movie;

#define MAX_ARR_LEN 20

Movie[MAX_ARR_LEN] movie_catalog;
```

Any global variables defined besides the one given above will result in a loss of 15 points.

int populate_movie_catalog();
Parameters: None
Return: The number of items put into the movie_catalog array.

Opens a file named data.txt and reads its contents into the movie_catalog array. The first line specifies the number of movies in the file and each subsequent line defines one movie. If the number of items in the array is greater than MAX_ARR_LEN then only the first MAX_ARR_LEN items should be read from the file. A sample input file is given below.

float average_ticket_price(int length);
Input: The number of items in the movie_catalog array
Return: The average ticket price of a movie
This function will find the average ticket price of a movie based on the records in the movie_catalog array.

int find_highest_grossing_movie(int length);
Input: The length of the movie_catalog array
Return: The indice of the highest grossing movie in the movie_catalog array.

void print_catalog(int length);
Input: The length of the movie_catalog array
Return: None
Prints out the name and release date of each movie in the catalog. An example out put is provided below.

int main(void);
Main should not have any real logic in it, instead it should be used to call the other functions and output their results.

Bonus
void sort(int length);
Input: The length of the movie_catalog array
Return: None
This bonus function should sort the movie_catalog by release date in ascending order.

Guidelines for Grading Lab 1
30 Points Possible

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General

If your program does not compile, results in a segmentation fault, gets stuck in an infinite loop, or does not produce any input/output (I/O) because most of the source code is commented out then your lab will receive a grade of zero. You may receive partial credit if your C program compiles and produces some valid I/O that meets the lab specifications.

Remember to have a header at the top with your name, id, pawprint, date, etc.
6 points – populate_movie_catalog
6 points – average_ticket_price
6 points – find_highest_grossing_movie
6 points – print_catalog
6 points – main

Use of global variables (Besides the class array): -15 points
Bonus: +5 points

Example input file

```
3
Aladdin 1992 504000000 100000000
Hook 1991 300850000 50000000
Jumanji 1995 162322000 30000000
```

Example output

```
$ ./a.out
List of Movies:
Aladdin : 1992
Hook : 1991
Jumanji :1995

Average Ticket Price: $5.37
Highest Grossing Movie: Aladdin


---------- Bonus ----------

Hook : 1991
Aladdin : 1992
Jumanji :1995
```