

# CS 12 - Assignment 6

## Classes

### Due Thursday, February 26

In this assignment you will be using a class. Be sure to include all necessary information at the top of your program and use good commenting and style throughout. You must use linux to do this program.

You will begin with your code from assignment 3 (the video rental program) and modify it to use a class.

Write a class to keep track of information for a movie rental business. The business has both old movies and new releases. Half of the movies are old movies and the other half are new releases. You should set a price for the renting of old movies and the renting of new releases. Renting new releases typically costs more than renting a movie that has been out for awhile and most people have already seen. Your class should include the following data members:

**number of movies** Set by a parameter passed to the constructor, this data member keeps track of the number of different movies the rental company owns.

**array of movies** Keep track of the number of copies of each movie available at any given time. The business owns two copies of each movie. You should dynamically allocate this array in the constructor.

**total number of rentals** Keep track of the total number of movies rented throughout the program.

**total amount of money made** Keep track of the total amount of money that is made through rentals or late fees throughout the run of the program.

The class should include the following function members:

**Constructor** Takes one parameter, the number of different movies the company has. Dynamically allocates an array to keep track of the number of copies available for each movie. Initialize all data members.

**Destructor** Perform clean up.

**Rent a movie** The user should be allowed to choose a movie to rent. They cannot rent movies that are not available. Be sure to update the status of the number of copies available. They should be able to choose as many movies as they want to rent. Update the total number of movies the business has rented since it began and the amount the business has brought in. Be sure to pay attention to whether the movie is an old movie or a new release when updating the money total.

**Return a movie** In this function, the renter is returning a movie and the business is checking the movie back in. The user should specify the movie id(s) they are returning and the copies available should be updated. The business only started with two copies of each movie and thus you should check that there are never more than two copies. If someone tries to return a movie that you already have two copies of, you may want to question them about where they got the movie. If the movie is late, the renter must pay a late fee. Each late movie invokes a \$1.00 late charge.

**Display movies** Show the movie ids and the number of copies available to rent. An example output is shown for 5 movies:

Movie	Copies Available
0	2
1	1
2	1
3	0
4	1

**Print business information** Display the current amount of rentals and the amount of money made thus far.

Modify your main program to use the class.