

CS350: Programming Language Paradigms Homework

C++ Object Oriented Programming Homework Assignment

For this assignment you will work on C++. You are being provided with a class called **Movie** that stores the following information about a movie:

- The movie name
- The movie release year
- The total number of ratings (total number of people that have rated the movie)
- The number of people that have given the movie a 1-star rating
- The number of people that have given the movie a 2-star rating
- The number of people that have given the movie a 3-star rating
- The number of people that have given the movie a 4-star rating
- The number of people that have given the movie a 5-star rating

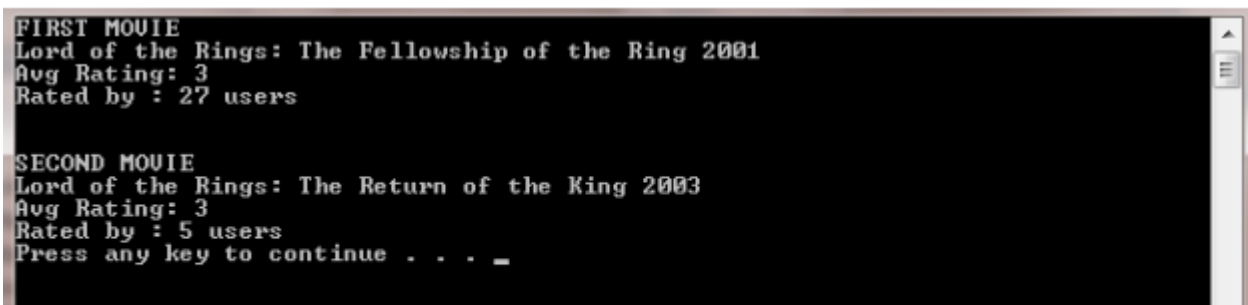
Implement the following member functions for the class:

- `Movie(string, int);` //creates a movie object with the given name and release year
- `double averageRating();` //returns the avg. rating for the movie
- `void addRating(int);` //adds a rating (from 1 to 5) to the movie

```
class Movie
{
private:
    string name;
    int release_year;
    int ratings_count, ratings1, ratings2, ratings3, ratings4, ratings5;

public:
    Movie(string n, int y);
    double averageRating() const;
    void addRating(int r);
    friend ostream &operator<<( ostream &output, const Movie &M ) {
        //OVERLOADED OUTPUT OPERATOR (do not modify)
        cout << M.name<< ", " << M.release_year <<endl;
        cout << "Avg Rating: " << M.averageRating()<<endl;
        cout << "Rated by : "<< M.ratings_count<< " users" << endl;
        return output;
    }
};
```

Copy the **main** function provided below in your program. It makes use of the *Movie* class. Once you have implemented the member functions of the class, it should run and display the following:



```
FIRST MOVIE
Lord of the Rings: The Fellowship of the Ring 2001
Avg Rating: 3
Rated by : 27 users

SECOND MOVIE
Lord of the Rings: The Return of the King 2003
Avg Rating: 3
Rated by : 5 users
Press any key to continue . . . _
```

```

int main()
{
    //Create Movie objects
    Movie lord1("Lord of the Rings: The Fellowship of the Ring",2001);
    Movie lord2("Lord of the Rings: The Return of the King",2003);

    //lord1 RATINGS
    //Add 5 ratings of 5stars to lord1 object
    for (int i=1; i<=5; i++)
        lord1.addRating(5);

    //Add 15 ratings of 4stars to lord1 object
    for (int i=1; i<=15; i++)
        lord1.addRating(4);

    //Add 5 ratings of 3stars to lord1 object
    for (int i=1; i<=5; i++)
        lord1.addRating(3);

    //Add 2 ratings of 2stars to lord1 object
    lord1.addRating(2);
    lord1.addRating(2);

    //lord2 RATINGS
    //Add 3 ratings of 4stars to lord2 object
    for (int i=1; i<=3; i++)
        lord2.addRating(4);

    //Add 1 ratings of 2stars to lord2 object
    lord2.addRating(2);

    //Add 1 ratings of 1stars to lord2 object
    lord2.addRating(1);

    //PRINT MOVIES AND AVERAGE RATINGS
    cout << "FIRST MOVIE" << endl << lord1<< endl << endl;
    cout << "SECOND MOVIE" << endl << lord2 << endl << endl;

}

```

Finally, modify the main program to create three more movies of your choice with at least 5 ratings each, and display the movies to screen.