Group 1:
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- A Project report of **no more than 3 pages** using a minimum font size of 10.5 points as a PDF or MS Word file. This report will consist of the following sections (this is similar to the DesignDoc you worked on in your coding labs.)

  a. A list of algorithms described in pseudocode with necessary comments

    - Budget vs Revenue: revenue divided by budget to see percentage earned

```
//pseudocode
getStuff(stringstream& str){
        Declare variables to hold the movie values
        Tokenize the stringstream to grab the data from a movie
        Convert the string values of the tokenized stringstream into comparable values
        Call the parameterized movie constructor
        Return created movie
}


//pseudocode
//note:this code is also used for the keyword string
initializeGenres(string companies){
        Declare variable to hold the genrevalues
        Tokenize the string using colons and commas as delimiters
        Push the tokens into a vector
        For the length of the vector
                Create a key using the id of the genre
                Create a value using the name of the genre;
                Add the key value pair to the unorder_map;
        Return the populated unorder_map;
}

//pseudocode
initializeCompanies(){
initializeGenres(string companies){
        Declare variable to hold the genrevalues
        Tokenize the string using colons and commas as delimiters
        Push the tokens into a vector
        For the length of the vector
                Create a key using the id of the genre
                Create a value using the name of the genre;
                Add the key value pair to the unorder_map;
        Return the populated unorder_map;
}

//pseudocode
//sorts the vector of movies by its RPD (revenue earned per dollar spent on budget
sortMoviesRPD() {
        declare i and j, to use in the for loop
```

declare a movie variable named temp, to store a movie as we swap them around
for the length of the vector, starting at index 1
while data[j - 1] is less than data[j[
set temp equal to the movie at data[j]
set data[j] equal to the movie at data[j-1]
set data[j-1] to be equal to the movie at temp
}
//prints out the movie title, revenue, budget, and rpd
printMovies(){
declare variable i for use in for loop
prints out a string saying that the list is organized by RPD
for the size of the vector
prints out the title, revenue, budget, and rpd of each movie, in the format:
Title: title, Revenue: revenue, Budget: budget, RPD: revenuePerDollar
}

b. A list of built-in datatypes you have selected to use with a brief justification (*no need to include simple data types such as int and char)*

- Vectors(to store and use multiple values)
- Unordered maps

c. A list of user-defined datatypes with a brief justification (no need to include the entire header file).

Movie datatype, a datatype to hold movie attributes
Database datatype, a datatype to hold the vector of movies and run sorting, searching and analyzing the data

d. A summary of the strategies adopted by your team to guarantee that your programs produce the correct results (e.g., unit tests and integration tests, peer code review.)

We used github to keep our code the same.

We also discussed pseudocode, implementation of our pseudocode, and any errors or bugs we encountered using discord chat and calls.

e. A summary of the strategies adopted by your team to improve the efficiency (in time and space) of your implementation

- We sorted the vector that holds the movies in order to make it easier to count the movies that have higher or lower revenues

- We created a variable to hold the revenue / budget called revenuePerDollar. This makes it so that we can just call this variable whenever we need it.

f. Briefly reflect on the following two questions:
   - What have you learned from this project individually and as a team?

     We learned that time goes by so fast. It's good to always keep communicating and helping each other out.

     We learned how to use unordered maps, as well as learning how to use a .csv file to gather info.

   - What were the major obstacles and how did you overcome them individually or as a team?

We needed more time. It was hard to overcome but it was a good learning experience.

We learned the value that github can have when working on a group project. At first, we just sent our files through discord as it was quicker. However, as we used discord more, we found it difficult to keep track of changes as well as access the shared files easily. Creating a github repository where we could upload our code, as well as add comments to what changes we made, made the process a lot easier.

g. A summary of each teammate's contribution

Though we each had our own tasks we focused on, we all helped each other out with bugs and errors. Mark, Ryan, and Kendall primarily focused on designing and implementing the code to read and store the .csv file using our database and movie classes. Jesus mostly focused on the code for the getters and setters of the database and movie classes, as well as coding the sorting algorithm based on the revenue per dollar spent on budget.