Welcome to my project!

Hi! This is a project that analyzes and manages in a database via a CLI. Please enjoy!

Install Requirements

- Install PostgreSQL.
- Install latest version of Python. The CLI was developed in Python 3.9.
    - If not already installed with Python, please install Python package manager PIP.
- Once these are installed, you'll need to install the necessary python libraries:
    - psycopg2: `pip install psycopg2`
    - prettytable: `pip install prettytable`

Setup

Understanding the File Structure

- File directory:
    - \CLI
        - CLI. py
    - \Database
        - video_games_db.sql
    - \Manual_Setup
        - commands_to_setup_db.sql
        - \Dataset
            - Genre.csv
            - Publisher.csv
            - Developer.csv
            - Users.csv
            - Console_Generation.csv
            - Rating_Orgs.csv
            - Rating.csv
            - Platform.csv
            - Game.csv
            - Game_Developers.csv
            - Review.csv
            - Public_Reception.csv
            - Sales.csv

Setup the database

There are two options to get started with the database:

Importing the database (Easiest

1. Create a new database in PostgreSQL using either the command line or pgAdmin4

2. Restore the new database with the file **video_games_db.sql**. Refer to the pgAdmin4 documentation. or PostgreSQL documentation for help restoring the database.

3. Troubleshooting: It's possible that after restoring a database, the serial primary keys might need to be reset to their maximum value to allow the next added item to be set to the correct id. This can be fixed by running the following SQL commands (also found at the bottom of **commands_to_setup_db.sql**.

```
SELECT setval('public.publishers_publisherid_seq', (SELECT  MAX(publisherid)
FROM public.publishers) +  1);
SELECT setval('public.developers_developerid_seq', (SELECT  MAX(developerid)
FROM public.developers) +  1);
SELECT setval('public.regions_regionid_seq', (SELECT  MAX(regionid) FROM
public.regions) +  1);
SELECT setval('public.users_userid_seq', (SELECT  MAX(userid) FROM
public.users) +  1);
SELECT setval('public.console_generations_generationid_seq', (SELECT
MAX(generationid) FROM public.console_generations) +  1);
SELECT setval('public.platforms_platformid_seq', (SELECT  MAX(platformid)
FROM public.platforms) +  1);
SELECT setval('public.games_gameid_seq', (SELECT  MAX(gameid) FROM
public.games) +  1);
SELECT setval('public.reviews_reviewid_seq', (SELECT  MAX(reviewid) FROM
public.reviews) +  1);
```

Manual setup from dataset (Hardest):

1. Navigate to the **commands_to_setup_db.sql** file under the \Manual_Setup folder

2. Execute the `CREATE TABLE` statements found inside the file

3. Replace the correct path to the corresponding dataset file which are all found inside \Manual_Setup\Dataset. for example: the command `\copy Game_Developers FROM '[INSERT PATH]\Game_Developers.csv' WITH (FORMAT csv, HEADER true);` requires the correct path to function. In my local computer I have this command set like this `\copy Game_Developers FROM 'C:\Project\Manual_Setup\Dataset\Game_Developers.csv' WITH (FORMAT csv, HEADER true);`

4. Execute the updated `\copy` commands to insert all the data from the dataset

5. **CRITICAL Before moving on to the CLI:** After all data is imported, ensure to run the `SELECT setval` commands to sync SERIAL primary keys properly.

```
SELECT setval('public.publishers_publisherid_seq', (SELECT  MAX(publisherid)
FROM public.publishers) +  1);
SELECT setval('public.developers_developerid_seq', (SELECT  MAX(developerid)
FROM public.developers) +  1);
SELECT setval('public.regions_regionid_seq', (SELECT  MAX(regionid) FROM
public.regions) +  1);
SELECT setval('public.users_userid_seq', (SELECT  MAX(userid) FROM
public.users) +  1);
SELECT setval('public.console_generations_generationid_seq', (SELECT
MAX(generationid) FROM public.console_generations) +  1);
SELECT setval('public.platforms_platformid_seq', (SELECT  MAX(platformid)
FROM public.platforms) +  1);
SELECT setval('public.games_gameid_seq', (SELECT  MAX(gameid) FROM
public.games) +  1);
SELECT setval('public.reviews_reviewid_seq', (SELECT  MAX(reviewid) FROM
public.reviews) +  1);
```

6. Test that all the data has been inserted correctly by Executing the `SELECT` commands.

Setup the CLI

Edit **`CLI.py`**with the login details to the database.

```
# ----------Database Config----------

DATABASE  =  {

'dbname':  'video_games_db', #Replace with name of your databsae

'user':  'postgres', #postgres is default, replace if needed

'password':  'PASSWORD', #Replace with password to your database

'host':  'localhost', #Replace if not running locally

'port':  '5432' #Update port. I use 5432 as my local default.

}
```

Guide to using the CLI

This is guide to the CLI, if you are intrested in examples of queries being executed that is located at the bottom of the page

Main menu Overview

Each option in the main menu will have a corresponding section in this guide:

```
Main Menu:
1. View Data
2. User Management
3. Game Management
4. Review Management
5. Sales Data
6. Rating Information
7. Analytics and Reports
8. Search
9. Developer and Publisher Relations
10. Exit
```

1. View Data Overview

Description: Explore and query various categories of data within the database such as viewing lists of genres, publishers, developers, and more. Below is a Tree Style breakdown of each View Data Menu including each Sub Menu with its own controls and prompt inputs.

```
View Data Menu:
1. Genres
2. Publishers
3. Developers
4. Platforms
    Platforms Sub Menu:
                1. View all platforms
                2. Filter by generation
                        prompt: Enter generation ID:
                3. Back to View Data Menu
5. Console Generations
6. Games
    Games Sub Menu:
        1. View all games
                View all games Sub Menu:
                    There are currently {GAME_NUM} games in the DB
                    1. Load all {GAME_NUM} games
                    2. View in pages of 1000
                        View in pages of 1000 Sub Menu: (this shows as you iterate
through the games)
                            1. Show next 1000 Games
                            2. Exit
                    3. Back to View Games Menu
        2. Filter by attributes
            Filter by attributes Sub Menu:
                Enter filter criteria:
                Genre ID (leave blank if no filter):
                Publisher ID (leave blank if no filter):
```

```
            Year (leave blank if no filter):
 7. Back to View Data Menu
 8. Reviews
    Review Sub Menu:
        Enter Game ID to filter by (leave blank for no filter):
 9. Regions
10. Back to Main Menu
```

2. User Management

Mange user data such as creating new users, updating existing users in the db and deleting users.

```
User Management Menu:
1. Create User
    Create User Sub Menu:
        Enter user name:
        Enter region ID:
2. Update User Info
    Update User Info Sub Menu:
        Enter user ID to update:
        Enter new name (leave blank to keep current):
        Enter new region ID (leave blank to keep current):
3. Delete User
    Delete User Sub Menu:
        Enter user ID to delete:
4. Back to Main Menu
```

3. Game Management

Add new games, modify existing games, or delete games. Game Management Menu:

```
1. Add New Game
    Add New Game Sub Menu:
        Enter game name:
        Enter game year:
        Enter genre ID:
        Enter publisher ID:
2. Update Game Info
    Update Game Info Sub Menu:
        Enter game ID to update:
        Enter new name (leave blank to keep current):
        Enter new year (leave blank to keep current):
        Enter new genre ID (leave blank to keep current):
        Enter new publisher ID (leave blank to keep current):
        Enter new rating ID (leave blank to keep current):
3. Delete Game
        Delete Game Sub Menu:
```

```
            Enter game ID to delete:
  4. Back to Main Menu
```

4. Review Management

Mange various game reviews. Users can add, edit, and remove their reviews.

```
Review Management Menu:
1. Write Review
    Write Review Sub Menu:
        Enter your user ID:
        Enter game ID to review:
        Enter your comment(leave blank for no comment):
        Would you recommend this game to a friend?:
            1. Yes
            2. No
            3. Don't Know/No opinion
            Select an option:
2. Edit Review
    Edit Review Sub Menu:
        Enter review ID to edit:
        Enter new score (leave blank to keep current):
        Enter new comment (leave blank to keep current):
        Would you still recommend this game to a friend?:
            1. Yes
            2. No
            3. No change
3. Delete Review
    Delete Review Sub Menu:
        Enter review ID to delete:
4. Back to Main Menu
```

5. Sales Data

View and analyze general sales data. If looking for more specific sales analyzing selection 7. Analytics and Reports from the main menu.

```
Sales Data Menu:
1. View Sales by Game
    View Sales by Game Sub menu:
        Enter game ID to view sales:
2. View Sales by Region
    View Sales by Region Sub Menu:
        Enter region ID to view sales:
3. View Best selling games by Region
    View Best selling games by Region Sub Menu:
        Enter region ID to view best selling games:
```

```
   4. View Best selling games by Genre
       View Best selling games by Genre Sub Menu:
            Enter genre ID to view best selling games:
   5. View Best selling games by Rating
       View Best selling games by Rating Sub Menu:
            Enter rating ID to view best selling games:
   6. View Best selling Publishers
   7. View Best selling Developers
   8. Back to Main Menu
```

6. Rating Information

View information regarding the game ratings and the various organizations that provide these ratings. Rating Information Menu:

```
   1. View Ratings
   2. View Rating Organizations
   3. Back to Main Menu
```

7. Analytics and Reports

Query reports based on game analytics such as top games, sales performance, or impact of critic scores on sales performance. Analytics and Reports Menu:

```
   1. Top Rated Games
   2. Most Reviewed Games
   3. Sales Performance Report:
       Sales Performance Report Sub Menu:
            Enter the year for sales report (leave blank for all years):
            Enter region ID for sales report (leave blank for all regions):
   4. Best Critic Scored Games vs Sales
   5. Best User Scored Games vs Sales
   6. Compare Scores and Examine Sales Impact
   7. Back to Main Menu
```

8. Search

Having trouble finding a specific developer id, game id, or publisher id, look no further than the search function. Search by name and find a corresponding id number.

```
   Search Menu:
   1. Search Games
       Enter game name or year to search:
   2. Search Developers
       Enter developer name to search:
```

```
    3. Search Publishers
        Enter publisher name to search:
    4. Back to Main Menu
```

9. Developer and Publisher Relations

Explore games by publisher, games by developer, and systems by publisher.

```
Developer and Publisher Relations Menu:
1. Games by Developer
    Enter developer ID:
2. Games by Publisher
    Enter publisher ID:
3. Systems by Publisher:
    Enter publisher ID:
4. Back to Main Menu
```

Queries by Menu

```
Main Menu:
1. View Data
2. User Management
3. Game Management
4. Review Management
5. Sales Data
6. Rating Information
7. Analytics and Reports
8. Search
9. Developer and Publisher Relations
10. Exit
Select an option: |
```

1. View Data Overview

```
Result:
+----------+---------------+
| GenreID  |  Genre Name   |
+----------+---------------+
|    1     | Role-Playing  |
|    2     |   Platform    |
|    3     |   Adventure   |
|    4     |    Action     |
|    5     |    Racing     |
|    6     |    Shooter    |
|    7     |     Misc      |
|    8     |    Sports     |
|    9     |    Puzzle     |
|   10     |  Simulation   |
|   11     |   Strategy    |
|   12     |   Fighting    |
+----------+---------------+
```

```
View Data Menu:
1. Genres
2. Publishers
3. Developers
4. Platforms
5. Console Generations
6. Games
7. Reviews
8. Regions
9. Back to Main Menu
Select an option: |
```

```
Select an option: 2

Result:
+-------------+-------------------------------------------+
| PublisherID |              Publisher Name               |
+-------------+-------------------------------------------+
|      1      |                  FuRyu                    |
|      2      |                 Nintendo                  |
|      3      |          Disney Interactive Studios       |
|      4      |             Namco Bandai Games            |
|      5      |                  Atari                    |
|      6      |                Activision                 |
|      7      |              Electronic Arts              |
|      8      |                DSI Games                  |
|      9      |               Kaga Create                 |
|     10      |                 Ubisoft                   |
|     11      |                Rondomedia                 |
|     12      |                Avanquest                  |
|     13      |               Nordcurrent                 |
|     14      |                  5pb                      |
|     15      |                CyberFront                 |
|     16      |                 Happinet                  |
|     17      |             DTP Entertainment             |
|     18      |               Deep Silver                 |
|     19      |            Acclaim Entertainment          |
|     20      |                 Capcom                    |
|     21      |                  THQ                      |
|     22      |                  Sega                     |
|     23      |          Sony Computer Entertainment      |
|     24      |                Koch Media                 |
|     25      |    Warner Bros. Interactive Entertainment |
|     26      |        BMG Interactive Entertainment      |
|     27      |              SouthPeak Games              |
```

```
Result:
+-------------+----------------------------------------------+
| DeveloperID |               Developer Name                 |
+-------------+----------------------------------------------+
|      1      |                   FuRyu                       |
|      2      |                  Nintendo                     |
|      3      |           Disney Interactive Studios          |
|      4      |             Namco Bandai Games                |
|      5      |             Bandai Namco Games                |
|      6      |               CyberConnect2                   |
|      7      |                   Atari                       |
|      8      |            Radical Entertainment              |
|      9      |                 Eutechnyx                     |
|     10      |                 Activision                    |
|     11      |                 Treyarch                      |
|     12      |             Vicarious Visions                 |
|     13      |              Electronic Arts                  |
|     14      |           Black Ops Entertainment             |
|     15      |                   ECI                         |
|     16      |                Kaga Create                    |
|     17      |           Anchor Bay Entertainment            |
|     18      |                 Ubisoft                       |
|     19      |             Genius Sonority Inc.              |
|     20      |               Easy Interactive               |
|     21      |              Avanquest Software               |
```

```
Select an option: 4
1. View all platforms
2. Filter by generation
3. Back to View Data Menu
```

```
Result:
+---------------+------------+-----------+
| Generation ID | Start Year | Last Year |
+---------------+------------+-----------+
|       1       |    1972    |   1980    |
|       2       |    1976    |   1992    |
|       3       |    1983    |   2003    |
|       4       |    1987    |   2004    |
|       5       |    1993    |   2006    |
|       6       |    1998    |   2013    |
|       7       |    2005    |   2017    |
|       8       |    2012    |   None    |
|       9       |    2020    |   None    |
+---------------+------------+-----------+
Enter generation ID: |
```

```
Select an option: 2

Result:
+────────────────+────────────+───────────+
| Generation ID  | Start Year | Last Year |
+────────────────+────────────+───────────+
|       1        |    1972    |    1980   |
|       2        |    1976    |    1992   |
|       3        |    1983    |    2003   |
|       4        |    1987    |    2004   |
|       5        |    1993    |    2006   |
|       6        |    1998    |    2013   |
|       7        |    2005    |    2017   |
|       8        |    2012    |    None   |
|       9        |    2020    |    None   |
+────────────────+────────────+───────────+
Enter generation ID: 5

Result:
+────────────+───────────────+───────────────+
| PlatformID | Platform Name | Generation ID |
+────────────+───────────────+───────────────+
|      8     |      PS       |       5       |
|     10     |      N64      |       5       |
|     21     |      SAT      |       5       |
|     26     |      PCFX     |       5       |
|     28     |      3DO      |       5       |
```

```
Result:
+────────────────+────────────+───────────+
| Generation ID  | Start Year | Last Year |
+────────────────+────────────+───────────+
|       1        |    1972    |    1980   |
|       2        |    1976    |    1992   |
|       3        |    1983    |    2003   |
|       4        |    1987    |    2004   |
|       5        |    1993    |    2006   |
|       6        |    1998    |    2013   |
|       7        |    2005    |    2017   |
|       8        |    2012    |    None   |
|       9        |    2020    |    None   |
+────────────────+────────────+───────────+
```

```
Select an option: 6

1. View all games
2. Filter by attributes
3. Back to View Data Menu
```
```
There are currently 16722 games in the DB
1. Load all 16722 games
2. View in pages of 1000
3. Back to View Games Menu
```

```
| 16695 |                        Zoo Tycoon 2                         | 2004 | Strategy      | Microsoft Game Studios |
| 16696 |                      Zoo Tycoon 2 DS                        | 2008 | Strategy      |          THQ           |
| 16697 |              Zoo Tycoon 2: Ultimate Collection              | 2008 | Strategy      | Microsoft Game Studios |
| 16698 |                       Zoo Tycoon DS                         | 2005 | Strategy      |          THQ           |
| 16699 |               Zoo Tycoon: Complete Collection               | 2003 | Strategy      | Microsoft Game Studios |
| 16700 |                 Zoo Vet: Endangered Animals                 | 2008 | Simulation    |       505 Games        |
| 16701 |                  Zoobles! Spring to Life!                   | 2011 | Misc          |       Activision       |
| 16703 |                          ZooCube                            | 2002 | Puzzle        |  Acclaim Entertainment |
| 16702 |                          ZooCube                            | 2002 | Puzzle        |  Acclaim Entertainment |
| 16704 |                           Zoop                              | 1995 | Puzzle        |       MediaQuest       |
| 16705 |                           Zubo                              | 2008 | Misc          |     Electronic Arts    |
| 11252 |                       Zumba Fitness                         | 2010 | Sports        |       505 Games        |
| 11253 |                       Zumba Fitness                         | 2010 | Sports        |       505 Games        |
| 11268 |                       Zumba Fitness                         | 2010 | Sports        |       505 Games        |
|  8167 |                      Zumba Fitness 2                        | 2011 | Sports        |  Majesco Entertainment |
| 16711 |                     Zumba Fitness Core                      | 2012 | Misc          |       505 Games        |
| 16710 |                     Zumba Fitness Core                      | 2012 | Misc          |       505 Games        |
|  8175 |                     Zumba Fitness Rush                      | 2012 | Sports        |       505 Games        |
| 16714 |                  Zumba Fitness: World Party                 | 2013 | Misc          |  Majesco Entertainment |
| 16713 |                  Zumba Fitness: World Party                 | 2013 | Misc          |  Majesco Entertainment |
| 16715 |                          Zwei!!                             | 2008 | Role-Playing  |   Falcom Corporation   |
| 16716 |     Zyuden Sentai Kyoryuger: Game de Gaburincho!!           | 2013 | Action        |   Namco Bandai Games   |
+-------+------------------------------------------------------------+------+---------------+------------------------+
```

```
Select an option: 2

Enter filter criteria:

Result:
+---------+---------------+
| GenreID |  Genre Name   |
+---------+---------------+
|    1    |  Role-Playing |
|    2    |    Platform   |
|    3    |   Adventure   |
|    4    |     Action    |
|    5    |    Racing     |
|    6    |    Shooter    |
|    7    |     Misc      |
|    8    |    Sports     |
|    9    |    Puzzle     |
|   10    |  Simulation   |
|   11    |   Strategy    |
|   12    |   Fighting    |
+---------+---------------+
Genre ID (leave blank if no filter): |
```


image

```
Publisher ID (leave blank if no filter): 2
Year (leave blank if no filter):

Result:
+---------+-------------------------------------------+------+----------+-----------+
| Game ID |                   Name                    | Year |  Genre   | Publisher |
+---------+-------------------------------------------+------+----------+-----------+
|   902   |             Balloon Fight                 | 1985 | Platform | Nintendo  |
|   914   |             Banjo-Kazooie                 | 1998 | Platform | Nintendo  |
|   919   |              Banjo-Tooie                  | 2000 | Platform | Nintendo  |
|  1453   |             Bomberman Hero                | 1998 | Platform | Nintendo  |
|  2107   |           Chibi-Robo! Zip Lash            | 2015 | Platform | Nintendo  |
|  2202   |       Classic NES Series: Castlevania     | 2004 | Platform | Nintendo  |
|  2203   |      Classic NES Series: Donkey Kong      | 2004 | Platform | Nintendo  |
|  2206   |       Classic NES Series: Ice Climber     | 2004 | Platform | Nintendo  |
|  2209   |    Classic NES Series: Super Mario Bros.  | 2004 | Platform | Nintendo  |
|  2945   |            Densetsu no Stafi              | 2002 | Platform | Nintendo  |
|  2946   |           Densetsu no Stafi 2             | 2003 | Platform | Nintendo  |
|  2947   |           Densetsu no Stafi 3             | 2004 | Platform | Nintendo  |
|  2948   |           Densetsu no Stafi 4             | 2006 | Platform | Nintendo  |
|  3332   |            DK: King of Swing              | 2005 | Platform | Nintendo  |
|  3375   |              Donkey Kong                  | 1994 | Platform | Nintendo  |
|  3376   |              Donkey Kong                  | 1983 | Platform | Nintendo  |
```

```
Select an option: 7
Enter Game ID to filter by (leave blank for no filter):

Result:
```

Review ID	User ID	Game ID	Score	Comment	Recommend
1	1	1506	5.0	"This is one of my favorite games ever!"	True
2	1	4	5.0		True
4	1	1	1.1		True
7	1	1	2.0		False

```
Result:
```

Region ID	Region Name
1	US
2	EU
3	JP
4	Other
5	Global

```
User Management Menu:
1. Create User
2. Update User Info
3. Delete User
4. Back to Main Menu
Select an option: |
```

```
Enter user name: John

Result:
```

Region ID	Region Name
1	US
2	EU
3	JP
4	Other
5	Global

```
Enter region ID: 2

Result:
```

User ID	Name	Region ID	Region Name
20	John	2	EU

```
User created successfully
```

```
Enter user ID to update: 20
Enter new name (leave blank to keep current): Tyler
Enter new region ID (leave blank to keep current): 1
User updated successfully

Result:
+-----------+---------+-------------+---------------+
| User ID   |  Name   | Region ID   | Region Name   |
+-----------+---------+-------------+---------------+
|    20     | Tyler   |      1      |      US       |
+-----------+---------+-------------+---------------+
```

```
Enter user ID to delete: 20
User deleted successfully
```

```
Enter game name: Mario 5
Enter game year: 2024
Enter genre ID: 2
Enter publisher ID: 2
Enter rating ID (leave blank for no rating): E
Game added successfully

Result:
+-----------+-----------+--------+------------+----------+------------+
| Game ID   |   Name    | Year   |   Genre    | Rating   | Publisher  |
+-----------+-----------+--------+------------+----------+------------+
|   16728   | Mario 5   | 2024   | Platform   |   E      |  Nintendo  |
+-----------+-----------+--------+------------+----------+------------+
```

```
Enter game ID to update: 16728
Enter new name (leave blank to keep current): Super Mario Bros:5
Enter new year (leave blank to keep current):
Enter new genre ID (leave blank to keep current):
Enter new publisher ID (leave blank to keep current):
Enter new rating ID (leave blank to keep current):
Game updated successfully

Result:
+-----------+----------------------+--------+------------+----------+------------+
| Game ID   |         Name         | Year   |   Genre    | Rating   | Publisher  |
+-----------+----------------------+--------+------------+----------+------------+
|   16728   | Super Mario Bros:5   | 2024   | Platform   |   E      |  Nintendo  |
+-----------+----------------------+--------+------------+----------+------------+
```

4. Review Management Menu

```
Enter game ID to delete: 16728
Game deleted successfully
```

```
Review Management Menu:
1. Write Review
2. Edit Review
3. Delete Review
4. Back to Main Menu
```

```
Enter your user ID: 1
Enter game ID to review: 15993
Enter your score (1.0-5.0): 5.0
Enter your comment(leave blank for no comment): I got this game for free with my wii! It was so much fun playing against my friends and family.
Would you recommend this game to a friend?:
1. Yes
2. No
3. Don't Know/No opinion
Select an option: 1
Review added successfully.

Result:
+-----------+---------+---------+-------+------------------------------------------------------------------------------------------------+-----------+
| Review ID | User ID | Game ID | Score |                                            Comment                                             | Recommend |
+-----------+---------+---------+-------+------------------------------------------------------------------------------------------------+-----------+
|     9     |    1    |  15993  |  5.0  | I got this game for free with my wii! It was so much fun playing against my friends and family. |    True   |
+-----------+---------+---------+-------+------------------------------------------------------------------------------------------------+-----------+
```

```
Enter review ID to edit: 9
Enter new score (leave blank to keep current): 0
Enter new comment (leave blank to keep current): I hated Wii Sports, I never won at bowling!!!!
Would you still recommend this game to a friend?:
1. Yes
2. No
3. No change
Select an option: 2
Review updated successfully.

Result:
+-----------+---------+---------+-------+------------------------------------------------+-----------+
| Review ID | User ID | Game ID | Score |                     Comment                    | Recommend |
+-----------+---------+---------+-------+------------------------------------------------+-----------+
|     9     |    1    |  15993  |  0.0  | I hated Wii Sports, I never won at bowling!!!! |   False   |
+-----------+---------+---------+-------+------------------------------------------------+-----------+
```

5. Sales Data Menu

```
Sales Data Menu:
1. View Sales by Game
2. View Sales by Region
3. View Best selling games by Region
4. View Best selling games by Genre
5. View Best selling games by Rating
6. View Best selling Publishers
7. View Best selling Developers
8. Back to Main Menu
```

```
Enter review ID to delete: 9
Review deleted successfully.
```

```
| 16702 |  0.02 |
| 16703 |  0.03 |
| 16704 |  0.03 |
| 16705 |  0.08 |
| 16706 |  0.25 |
| 16707 |  0.25 |
| 16708 |  0.1  |
| 16709 |  0.35 |
| 16710 |  0.0  |
| 16711 |  0.0  |
| 16712 |  0.36 |
| 16713 |  0.17 |
| 16714 |  0.11 |
| 16715 |  0.0  |
| 16716 |  0.0  |
+-------+-------+
```

```
Enter game ID to view sales: 15993

Result:
+-----------+--------+
| Region ID | Sales  |
+-----------+--------+
|     1     | 41.36  |
|     2     | 28.96  |
|     3     |  3.77  |
|     4     |  8.45  |
|     5     | 82.53  |
+-----------+--------+
```

```
Enter region ID to view best selling games: 1

Result:
+---------+----------------------------+--------+
| Game ID |         Game Name          | Sales  |
+---------+----------------------------+--------+
|  15993  |        Wii Sports          | 41.36  |
|  13501  |     Super Mario Bros.      | 29.08  |
|   3751  |        Duck Hunt           | 26.93  |
|  13976  |         Tetris             | 23.2   |
|   7909  |      Mario Kart Wii        | 15.68  |
|  15995  |     Wii Sports Resort      | 15.61  |
|   6944  |      Kinect Adventures!    | 15.0   |
|   9632  | New Super Mario Bros. Wii  | 14.44  |
|  15991  |         Wii Play           | 13.96  |
|  13517  |     Super Mario World      | 12.78  |
```

```
Enter genre ID to view best selling games: 2

Result:
+----------+------------------------------+--------+
| Game ID  |           Game Name          | Sales  |
+----------+------------------------------+--------+
|  13501   |      Super Mario Bros.        | 40.24 |
|   9629   |    New Super Mario Bros.      | 29.8  |
|  13501   |      Super Mario Bros.        | 29.08 |
|   9632   |  New Super Mario Bros. Wii    | 28.32 |
|  13517   |      Super Mario World        | 20.61 |
|  13509   |      Super Mario Land         | 18.14 |
|  13504   |     Super Mario Bros. 3       | 17.28 |
|   9632   |  New Super Mario Bros. Wii    | 14.44 |
|  13517   |      Super Mario World        | 12.78 |
|  13496   |       Super Mario 64          | 11.89 |
+----------+------------------------------+--------+
```

```
Enter genre ID to view best selling games: 11

Result:
+----------+-------------------------------+--------+
| Game ID  |           Game Name           | Sales  |
+----------+-------------------------------+--------+
|  10615   |       Pokemon Stadium         |  5.45 |
|  15884   |         Warzone 2100          |  5.01 |
|  13242   | StarCraft II: Wings of Liberty |  4.84 |
|  15822   | Warcraft II: Tides of Darkness |  4.21 |
|  10581   |   PokÃ©mon Trading Card Game   |  3.7  |
|  10615   |       Pokemon Stadium         |  3.18 |
|   2321   |  Command & Conquer: Red Alert |  2.85 |
|  15884   |         Warzone 2100          |  2.79 |
|  10580   |      PokÃ©mon Stadium 2        |  2.73 |
|   5584   |         Halo Wars             |  2.62 |
+----------+-------------------------------+--------+
```

```
Enter rating ID to view best selling games: M

Result:
+----------+------------------------------+--------+
| Game ID  |           Game Name          | Sales  |
+----------+------------------------------+--------+
|   5310   |       Grand Theft Auto V      | 21.04 |
|   5319   | Grand Theft Auto: San Andreas | 20.81 |
|   5309   |       Grand Theft Auto V      | 16.27 |
|   5321   |  Grand Theft Auto: Vice City  | 16.15 |
|   6165   | Call of Duty: Modern Warfare 3 | 14.73 |
|   1818   |    Call of Duty: Black Ops     | 14.61 |
|   1829   |   Call of Duty: Black Ops II   | 13.79 |
|   1827   |   Call of Duty: Black Ops II   | 13.67 |
|   1843   | Call of Duty: Modern Warfare 2 | 13.47 |
|   6178   | Call of Duty: Modern Warfare 3 | 13.32 |
+----------+------------------------------+--------+

Sales Data Menu:
```

```
Result:
+------------------------------------+------------------------+
|           Publisher Name           |      Total Sales       |
+------------------------------------+------------------------+
|              Nintendo              |   3577.619999999984    |
|          Electronic Arts           |   2233.679999999961    |
|             Activision             |   1462.169999999977    |
|     Sony Computer Entertainment    |   1213.0299999999902   |
|              Ubisoft               |   943.0399999999893    |
|         Take-Two Interactive       |   807.6599999999964    |
|                THQ                 |   676.8399999999955    |
|     Konami Digital Entertainment   |   564.5999999999958    |
|                Sega                |   540.4899999999982    |
|          Namco Bandai Games        |   509.1299999999984    |
+------------------------------------+------------------------+
```

```
Result:
+--------------+----------------------------+----------------------+
| Developer ID |       Developer Name       |      Total Sales     |
+--------------+----------------------------+----------------------+
|      2       |          Nintendo          |   2773.769999999992  |
|     32       |           Capcom           |   388.2799999999991  |
|     36       |          EA Sports         |   375.8600000000004  |
|     13       |       Electronic Arts      |   363.20999999999975 |
|     18       |           Ubisoft          |   353.0799999999936  |
|     66       |  Sony Computer Entertainment |   324.0800000000002  |
|     37       |          EA Canada         |   291.18999999999977 |
|    811       |       Rockstar North       |   238.96999999999997 |
|      4       |      Namco Bandai Games     |   237.5400000000007  |
|    303       |       Ubisoft Montreal     |   234.21000000000026 |
+--------------+----------------------------+----------------------+
```

6. Rating Information Menu

```
Rating Information Menu:
1. View Ratings
2. View Rating Organizations
3. Back to Main Menu
Select an option: |
```

```
Enter rating organization ID to filter by (leave blank for no filter): ESRB
Result:
+-----------+---------------------------+-------------------------------------------------------------------------------------------+
| Rating ID |           Title           |                                        Description                                        |
+-----------+---------------------------+-------------------------------------------------------------------------------------------+
|    EC     |      Early Childhood       | Titles rated EC (Early Childhood) have content that may be suitable for ages 3 and older. Contains no material
that parents would find inappropriate                                                                                                  |
|    E      |         Everyone          | Titles rated E (Everyone) have content that is generally suitable for all ages. May contain minimal cartoon, fantasy or mil
d violence and/or infrequent use of mild language.                                                                                     |
|   E10+    |    Everyone 10 and older  | Titles rated E10+ (Everyone 10 and older) have content that is generally suitable for ages 10 and up. May contain more cartoon, fantasy or m
ild violence, mild language and/or minimal suggestive themes.themes.                                                                   |
|    T      |           Teen            | Titles rated T (Teen) have content that is generally suitable for ages 13 and up. May contain violence, suggestive themes, crude humor, minima
l blood, simulated gambling, and/or infrequent use of strong language.                                                                 |
|    M      |          Mature           | Titles rated M (Mature) have content that is generally suitable for persons ages 17 and up. May contain intense violence, bl
ood and gore, sexual content and/or strong language.                                                                                   |
|    AO     |        Adults Only        | Titles rated AO (Adults Only) have content that is only suitable for persons ages 17 and up. May contain intense violence, bl
ood and gore, sexual content and/or strong language.                                                                                   |
|    RP     |      Rating Pending       | Titles listed as RP (Rating Pending) have not yet been assigned a final ESRB rating. (This symbol appears only in advertising and promotional materials prior to
a game's release, and will be replaced by a game's rating once it has been assigned.)                                                  |
|    K-A    | Kids through Adults (DEPRECATED) |                            The E (Everyone) rating was originally called K-A (Kids to Adults) but was changed
in 1998.                                                                                                                               |
+-----------+---------------------------+-------------------------------------------------------------------------------------------+
```

```
Result:
+-----------------+----------------------------------------------------------------------------+------------------+
| Rating Org ID   |                                   Title                                    | Year Established |
+-----------------+----------------------------------------------------------------------------+------------------+
|      ESRB       |                   Entertainment Software Rating Board                       |       1994       |
|      PEGI       |                     Pan-European Game Information                           |       2003       |
|      CERO       | Computer Entertainment Rating Organization Video Game Rating System         |       2002       |
+-----------------+----------------------------------------------------------------------------+------------------+
```

7. Analytics and Reports Menu

```
Analytics and Reports Menu:
1. Top Rated Games
2. Most Reviewed Games
3. Sales Performance Report
4. Best Critic Scored Games vs Sales
5. Best User Scored Games vs Sales
6. Compare Scores and Examine Sales Impact
7. Back to Main Menu
Select an option: |
```

```
Result:
+-------------------------+-------------------+
|       Game Name         |  Average Score    |
+-------------------------+-------------------+
|   Frozen: Olaf's Quest  |        5.0        |
|         Halo 3          |        5.0        |
|      Beyblade Burst     |        1.55       |
+-------------------------+-------------------+
```

```
Result:
+-------------------------+-------------------+
|       Game Name         |   Review Count    |
+-------------------------+-------------------+
|      Beyblade Burst     |         2         |
|   Frozen: Olaf's Quest  |         1         |
|         Halo 3          |         1         |
+-------------------------+-------------------+
```

```
Result:
+--------------------------------------+--------------+------------------------+
|              Game Name               | Critic Score |      Total Sales       |
+--------------------------------------+--------------+------------------------+
|   Super Mario World 2: Yoshi's Island |    100.0     |         14.05          |
|          Super Castlevania IV         |    100.0     |          1.26          |
|              Robotron X               |    100.0     |  0.16999999999999998   |
|          Grand Theft Auto IV          |     98.0     |   43.010000000000005   |
|       Tony Hawk's Pro Skater 2        |     98.0     |          9.36          |
|              Quake II                 |     98.0     |          1.43          |
|             SoulCalibur               |     98.0     |          0.68          |
|          Grand Theft Auto V           |     97.0     |   110.80999999999997   |
|          Grand Theft Auto III         |     97.0     |   26.200000000000003   |
|           Super Mario Galaxy          |     97.0     |          22.7          |
+--------------------------------------+--------------+------------------------+
```

```
Result:
+----------------------------------------------------------+------------+---------------------+
|                        Game Name                         | User Score |     Total Sales     |
+----------------------------------------------------------+------------+---------------------+
|                     Jurassic Park                         |   98.49    |        0.72         |
| Phoenix Wright: Ace Attorney - Trials and Tribulations   |   98.23    |        1.22         |
|                     Arc the Lad II                       |   96.04    |         2.1         |
|          Ogre Battle 64: Person of Lordly Caliber        |   95.57    |        0.82         |
|                    Panzer General                        |   93.53    |        0.49         |
|                  Super Bomberman 5                        |   93.36    |         0.6         |
|                 Football Manager 2012                    |   92.89    |        0.26         |
|                     Tetris DX                            |   92.64    |  3.8600000000000003 |
|                  Super Mario Bros.                       |   92.58    |        90.62        |
|        Dragon Quest Monsters: Joker 2 Professional       |    91.0    |        1.24         |
+----------------------------------------------------------+------------+---------------------+
```

```
Result:
+-------------------------+--------------+------------+-------------------+--------------------+
|        Game Name        | Critic Score | User Score | Score Discrepancy |    Total Sales     |
+-------------------------+--------------+------------+-------------------+--------------------+
|        NFL 2K1          |     97.0     |    6.0     |       91.0        |        2.18        |
|   Grand Theft Auto IV   |     98.0     |    7.5     |       90.5        |        21.0        |
| Tony Hawk's Pro Skater 2|     98.0     |    7.7     |       90.3        |        9.36        |
|   Grand Theft Auto IV   |     98.0     |    7.9     |       90.1        | 22.009999999999998 |
| Tony Hawk's Pro Skater 3|     97.0     |    7.5     |       89.5        |        8.83        |
|       SoulCalibur       |     98.0     |    8.8     |       89.2        |        0.68        |
|    Grand Theft Auto V   |     97.0     |    7.9     |       89.1        |       10.95        |
|    Grand Theft Auto V   |     97.0     |    8.1     |       88.9        |       32.54        |
|    Grand Theft Auto V   |     97.0     |    8.2     |       88.8        |       42.09        |
|    Grand Theft Auto V   |     97.0     |    8.3     |       88.7        |       25.23        |
+-------------------------+--------------+------------+-------------------+--------------------+
```
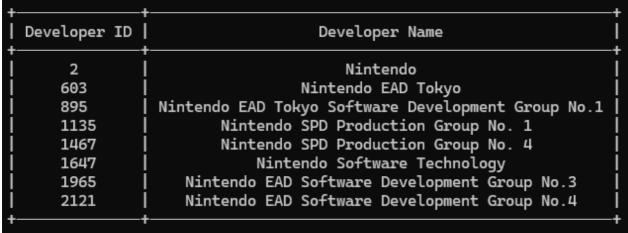
8. Search

```
Search Menu:
1. Search Games
2. Search Developers
3. Search Publishers
4. Back to Main Menu
Select an option: |
```

```
Enter game name or year to search: Halo

Result:
+----------+----------------------------------------+--------+
| Game ID  |                  Name                   |  Year  |
+----------+----------------------------------------+--------+
|   1506   |                 Halo 3                  |  2007  |
|   1596   |              Halo 3: ODST               |  2009  |
|   5576   |                 Halo 2                  |  2007  |
|   5577   |                 Halo 2                  |  2004  |
|   5578   |         Halo 2 Multiplayer Map Pack     |  2005  |
|   5581   |                 Halo 4                  |  2012  |
|   5582   |            Halo 5: Guardians            |  2015  |
|   5583   |             Halo Triple Pack            |  2005  |
|   5584   |                Halo Wars                |  2009  |
|   5585   |          Halo: Combat Evolved           |  2003  |
|   5586   |          Halo: Combat Evolved           |  2001  |
|   5587   |     Halo: Combat Evolved Anniversary    |  2011  |
|   5588   |               Halo: Reach              |  2010  |
|   5589   |   Halo: The Master Chief Collection     |  2014  |
```

```
Enter developer name to search: Nintendo

Result:
+--------------+----------------------------------------------------+
| Developer ID |                 Developer Name                     |
+--------------+----------------------------------------------------+
|      2       |                   Nintendo                         |
|     603      |               Nintendo EAD Tokyo                   |
|     895      | Nintendo EAD Tokyo Software Development Group No.1 |
|    1135      |       Nintendo SPD Production Group No. 1          |
|    1467      |       Nintendo SPD Production Group No. 4          |
|    1647      |         Nintendo Software Technology               |
|    1965      |   Nintendo EAD Software Development Group No.3     |
|    2121      |   Nintendo EAD Software Development Group No.4     |
+--------------+----------------------------------------------------+
```

```
Enter publisher name to search: SEGA

Result:
+--------------+------------------+
| Publisher ID |  Publisher Name  |
+--------------+------------------+
|      22      |       Sega       |
+--------------+------------------+
```
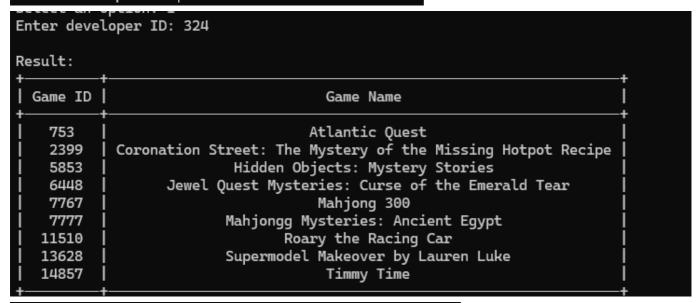
9. Developer Publisher Relations Menu

```
Developer and Publisher Relations Menu:
1. Games by Developer
2. Games by Publisher              22 / 22
3. Systems by Publisher
4. Back to Main Menu
Select an option: |
```

```
Enter developer ID: 324

Result:
+----------+------------------------------------------------------------+
| Game ID  |                        Game Name                           |
+----------+------------------------------------------------------------+
|   753    |                     Atlantic Quest                         |
|   2399   | Coronation Street: The Mystery of the Missing Hotpot Recipe|
|   5853   |              Hidden Objects: Mystery Stories               |
|   6448   |        Jewel Quest Mysteries: Curse of the Emerald Tear    |
|   7767   |                      Mahjong 300                           |
|   7777   |            Mahjongg Mysteries: Ancient Egypt              |
|  11510   |                  Roary the Racing Car                     |
|  13628   |            Supermodel Makeover by Lauren Luke             |
|  14857   |                      Timmy Time                          |
+----------+------------------------------------------------------------+
```

```
Developer and Publisher Relations Menu:
1. Games by Developer
2. Games by Publisher
3. Systems by Publisher
4. Back to Main Menu
Select an option: 2
Enter publisher ID: 346

Result:
+----------+-------------------------------+
| Game ID  |          Game Name            |
+----------+-------------------------------+
|   4585   |     Final Fantasy Chronicles  |
|   4586   |     Final Fantasy Collection  |
|   4594   |      Final Fantasy I & II      |
|   4597   |         Final Fantasy II       |
|   4623   | Final Fantasy VII International |
|  11074   |         Racing Lagoon          |
+----------+-------------------------------+
```