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| **Project Case** |  |
| ISYS6169 | ISYS6169001 | ISYS6169016 | ISYS6169049  Database Systems |
| **Information Systems** | **O232-ISYS6169-MZ01-00** |
| ***Valid on*** *Odd Semester Year 2022/2023* | **Revision 00** |

1. Seluruh kelompok tidak diperkenankan untuk:

*The whole group is not allowed to:*

* + - Melihat sebagian atau seluruh proyek kelompok lain,

*Seeing a part or the whole project from another groups*

* + - Menyadur sebagian maupun seluruh proyek dari buku,

*Adapted a part or the whole project from the book*

* + - Mendownload sebagian maupun seluruh proyek dari internet,

*Downloading a part or the whole project from the internet,*

* + - Mengerjakan soal yang tidak sesuai dengan tema yang ada di soal proyek,

*Working with another theme which is not in accordance with the existing theme in the matter of the project,*

* + - Melakukan tindakan kecurangan lainnya,

*Committing other dishonest actions,*

* + - Secara sengaja maupun tidak sengaja melakukan segala tindakan kelalaian yang menyebabkan hasil karyanya berhasil dicontek oleh orang lain / kelompok lain.

*Accidentally or intentionally conduct any failure action that cause the results of the project was copied by someone else / other groups.*

1. Jika kelompok terbukti melakukan tindakan seperti yang dijelaskan butir 1 di atas, maka **nilai kelompok** yang melakukan kecurangan (menyontek maupun dicontek) akan di – **NOL** – kan.

*If the group is proved to the actions described in point 1 above, the score of the group which committed dishonest acts (cheating or being cheated) will be “Zero”.*

1. Perhatikan jadwal pengumpulan proyek, segala jenis pengumpulan proyek di luar jadwal tidak dilayani.

*Pay attention to the submission schedule for the project, all kinds of submission outside the project schedule will not be accepted.*

1. Bila Anda tidak membaca peraturan ini, maka Anda dianggap telah membaca dan menyetujuinya.

*If you have missed to read these regulations, so you are considered to have read and agreed on it.*

1. Persentase penilaiaan untuk matakuliah ini adalah sebagai berikut:

*Marking percentage for this subject is described as follows:*

|  |  |  |
| --- | --- | --- |
| **Tugas Mandiri**  *Assignment* | **Proyek**  *Project* | **UAP**  *Final Exam* |
| 30% | 30% | 40% |

1. Software yang digunakan pada matakuliah ini adalah sebagai berikut:

*Software will be used in this subject are described as follows:*

|  |
| --- |
| **Software**  *Software* |
| Microsoft Office 365  SQL Server Developer 2019  SQL Server Management Studio 18.9.1  Visual Paradigm Community Edition 16.3 |

1. Ekstensi file yang harus disertakan dalam pengumpulan tugas mandiri, proyek, dan uap untuk matakuliah ini adalah sebagai berikut:

*File extensions should be included in assignment, project, and final exam collection for this subject are described as follows:*

|  |  |  |
| --- | --- | --- |
| **Tugas Mandiri**  *Assignment* | **Proyek**  *Project* | **UAP**  *Final Exam* |
| SQL | SQL, VPP, Image Files (JPG / PNG) | SQL |

## Soal

*Case*

**geMZhin impact**

**geMZhin impact** is a new game developed by MiZoyo. **geMZhin impact** has features where user can get character with **gacha** by paying some primogems and get some primogems by **topup** with real money.

In order to track all player activities, MiZoyo has created a database system that stores player data such as **gacha** and **topup**. The database data has following procedures which are:

* Every **player** data must have name, gender, email, date of birth (DOB), and phone number. They also need ID for identification with following format

“PLXXX”

X => number between 0 – 9

* Player can buy primogems bundle from shop.
* The **shop** needs to have a name an identification number with the following format:

“SHXXX”

X => number between 0 – 9

* Every **Topup header** made by with the shop have all information about the player, shop, topup date, and an identification number with the following format:

“TOXXX”

X => number between 0 – 9

* Every **Topup header** can have one or more than one Topup detail.
* Every **Topup detail** has all the information about the primogems bundle.
* Every **primogems bundle** purchased from the shop have data of how many primogems in it, the bundle price, and an identification number with the following format:

“PBXXX”

X => number between 0 – 9

* Player who wants to gacha to get character has to choose a gacha bundle.
* Every **gacha bundle** have data of how many gacha count it contains, the price, and an identification number with the following format:

“GBXXX”

X => number between 0 – 9

* Every **Gacha header** made by players have all information about the player, the gacha bundle, the gacha date, and an identification number with the following format:

“GHXXX”

X => number between 0 – 9

* Every **Gacha header** can have one or more than one gacha detail.
* Every **Gacha detail** have all the information about the characters obtained.
* **Characters** in geMZhin impact have information such as name, level that indicated by the number of stars, element type, and an identification number with the following format:

“CHXXX”

X => number between 0 – 9

* **Element Type** haveinformationabout its name and an identification number with the following format:

“ETXXX”

X => number between 0 – 9

**Notes:**

* Player gender must be either ‘Male’ or ‘Female’ (without quote).
* Player email must end with ‘@gemzhin.com’ (without quote).
* Player phone number must start with Indonesia phone number code (+62).
* Player phone number length must between 11 and 16.
* Character star must between 4 and 5.
* Each Gacha transaction and Topup transaction year must occurred in 2000 or later.

Now **geMZhin impact** is still using manual management system to maintain the **gacha** and **topup transactions**. You as a freelancer in MiZoyo want to create a database system that can store data and maintain the **gacha** and **topup transactions**. The tasks that you must do are:

1. Create Entity Relationship Diagram to maintain **gacha** and **topup transactions**.
2. Create a database system using DDL syntax that relevant with **gacha** and **topup transactions**.
3. Create query using DML syntax to fill the tables in database systems with data based on the following conditions:

* **Master** table must be filled with more than or equals 15 data.
* **Transaction** table must be filled with more than or equals 15 data.
* **Transaction detail** table must be filled with more than or equals 25 data.
* For the **Element types** table, the table must be filled with the following data:

|  |  |
| --- | --- |
| Element types Names | |
| Pyro | Hydro |
| Cryo | Electro |
| Geo | Anemo |

1. Create query using DML syntax to simulate the transactions process for **gacha** and **topup transactions**.

**Note**: DML syntax to **fill database** and DML syntax to **simulate** the **transactions process** should be a **different query**.

1. To support database management process in **geMZhin impact**, MiZoyo asked you to provide some query that resulting important data. The requirements that asked from her are:
2. Display PlayerName and Characters Owned (Obtained from total number of characters from gacha transaction) for each male player that was born before 2000.
3. Display PlayerName, Player Number (obtained by adding 'Player' in front of the last three characters of PlayerID), and total primogems bought (obtained from the total number of primogems the player bought from topup) by each player in 2022 and the price of the primogem bundle is less than 100000.
4. Display PlayerName, Email (obtained by replacing ‘@gemzhin.com’ from PlayerEmail with '@gmail.com'), Total Characters (obtained by adding ‘ characters’ at the end of total number of characters obtained from gacha transaction), and Highest star (obtained from highest star of characters the player get from gacha transactions) for each player where PlayerName contains at least 2 words and Total Characters is more than 3.
5. Display PlayerName, Topup Count (obtained from concatenating how many times the player topup with ' times'), and Cheapest Bundle Bought (obtained from cheapest price of bundle that the player ever bought) for players that was born in april and have Topup Count of more than 1 time.
6. Display PlayerName, Gacha Number (obtained by replacing first two characters of GachaID with 'Gacha-'), and GachaDate for Gacha Transactions where the GachaCount is less than 8 and obtain 2 or more characters with distinct elements in one gacha transaction, then sort by GachaDate in descending order.
7. Display PlayerName, Phone Number, and Email Name (obtained from letters in PlayerEmail before '@') for female players that ever bought the cheapest primogem bundle.
8. Display PlayerName and Total Spend (obtained from total of Primogem bundle Price the player bought from topup transaction) for players that is born after year 2000 and the total spend is more than or equal to average of total spend among all Player, then sort by Total Spend in ascending order.
9. Display PlayerName and Birth Month (obtained from the month name of PlayerDOB) for each player that never buy the cheapest or the most expensive gacha bundle and born at the first half of the year.
10. Create a view '**ViewGachaData**' that displays PlayerName, GachaCount (obtained from total gacha the player had done), and Days Since Last Gacha (obtained by getting the difference of day between the last gacha date and current date) where GachaCount is more than 1 and Days since Last Gacha is less than 300 days.
11. Create a view '**ViewShopData**' that displays ShopName, Total Profit (obtained from total Primogem bundle price that has been bought from the shop), and Total Player Served (obtained from total player that ever bought from the shop) that occurred in the first quarter of the year and shops name contain only one word.

**File that must be collected**:

1. Entity Relationship Diagram (.vpp, .png)
2. Query to create the database system. (.sql)
3. Query to insert data into tables. (.sql)
4. Query to simulate the transactions processes. (.sql)
5. Query to answer the 10 cases. (.sql)

Here are the **rules** that you must follow to create your project:

1. Use **appropriate software** for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya.
2. Collect **appropriate files** for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya.
3. Include the **other files** that can support your project, such as:
   * All files in your project.
   * Other files (image, audio, video, etc.) used in your project.
   * \*.doc file (documentation of your project) that contains the reference links of additional files (image, audio, video, etc.) used in your project.
   * \*.doc file (documentation of your project) that contains all pages in your project, reference links of additional files (image, audio, video, etc.) used in your project, the description about how to use your application, etc.

**If you do not understand, please ask your assistant! Do not make your own assumption!**