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| **Project Case** |  |
| ISYS6169 | ISYS6279 | ISYS6280 | T0206  Database Systems |
| **Information Systems** | **O202-ISYS6169-LY03-00** |
| ***Valid on*** *Odd Semester Year 2019/2020* | **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 other 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. Jangan lupa untuk melihat kriteria penilaian proyek yang ditempel di papan pengumuman, atau tanya asisten anda.

*Don’t forget to look at the project assessment criteria that posted on the announcement board, or ask your teaching assistant.*

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% | 40% | 30% |

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

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

|  |
| --- |
| **Software**  *Software* |
| Microsoft SQL Server Enterprise 2016  Microsoft Office 365 (Word, Excel)  Microsoft Office Visio 2013 |

## Ekstensi file yang harus disertakan dalam pengumpulan tugas mandiri dan proyek untuk matakuliah ini adalah sebagai berikut:

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

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

## Soal

*Case*

**bLYtz Megaplex**

**bLYtz Megaplex** is cinema belongs to Lyora. **bLYtz Megaplex** provides several **studios** as places to watch **movies** and sells **refreshments** which consists of **beverages** and **food**.

Every staff who is hired by **bLYtz Megaplex** have tasks to **serve a customer who wants to buy tickets for watching movie** and **buy refreshments**. Every staff also must **arrange movie schedule for every movie and studio** in **bLYtz Megaplex**. Every staff must follow several procedures to become a staff and do their job desks, which are:

* Every staff hired must have a personal information such as name, email, gender, date of birth, phone number and address. Every staff has an identification number with the following format:

“SFXXX”

X => number between 0 – 9

* Every movie inserted by the staffs has information such as name, license number and duration (in minutes). Every movie has an identification number with the following format:

“MVXXX”

X => number between 0 – 9

* Every studio **bLYtz Megaplex** has is recorded with name and price. Every studio has an identification number with the following format:

“STXXX”

X => number between 0 – 9

* Staff can arrange a movie schedule for each movie with several studios.
* Every **schedule transaction** made information about the movie, studio and showtime date and time. Every **schedule transaction** has an identification number with the following format:

“MSXXX”

X => number between 0 – 9

* Every refreshment sold by **bLYtz Megaplex** has several types with different names. Every refreshment type has an identification number with the following format:

“RTXXX”

X => number between 0 – 9

* As for the refreshment itself, every refreshment recorded has information such as name, price, stock and its refreshment type. Every refreshment has an identification number with the following format:

“REXXX”

X => number between 0 – 9

* Staff can also serve customers who want to watch movie
* Every **movie sale transaction** made by the customer have all the information about staff, transaction date, desired movie schedules and seats which are sold. Every **movie sale transaction** has an identification number with the following format:

“MTrXXX”

X => number between 0 – 9

* A customer could buy **more than one schedule** in every transaction.
* Every **refreshment sale transaction** made by the customer have all the information about staff, transaction date, refreshments and quantity sold. Every **refreshment sale transaction** has an identification number with the following format:

“RTrXXX”

X => number between 0 – 9

* A customer could buy **more than one refreshment** in every transaction.

**Notes:**

* Staff name must be between 7 and 30 characters.
* Staff’s age must be more than or equal to 18.
* Staff gender must be either “Male” or “Female” (without quote).
* Refreshment stock must be more than 50.
* Studio price must be between 35000 and 65000.
* Movie duration must be less than equal to 240 minutes
* Schedule movie must be at least 7 days ahead of present time.

Because **bLYtz Megaplex** was established recently, Lyora asks you to help her design and **create a database system** that can store data and maintain **sales transactions** and **assets recordings according to requirements** she has requested of you. The tasks that you must do are:

1. Create Entity Relationship Diagram to maintain **sales transactions** and **assets recordings**.
2. Create a database system using DDL syntax that relevant with **sales transactions** and **assets recordings**. The database system must include database and tables with the required procedures.
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 **Refreshment Type** table, the table must be filled with the following data:

|  |  |
| --- | --- |
| **Refreshment Type Names** | |
| Coffee | Western Food |
| Soda | Heavy Snacks |
| Juice | Traditional Food |
| Tea | Eastern Food |
| Other Beverages | Light Snacks |

Refreshment Type ID number starts from “Coffee” (without quotes) and continues vertically until “Light Snacks” as the last type listed in the table.

1. Create query using DML syntax to simulate the transactions process for **sales transactions** and **assets recording**.

**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 **bLYtz Megaplex**,Lyora asks you to provide some queries which give her important data she needs. The requirements requested are:
2. Display MovieID and Total Revenue (started with ‘IDR ’ and added with total sum of studio price multiplied with seats sold) for every transaction which has studio price higher than 50000 and occurred before the 20th day of the month.
3. Display StaffName and Total Sold Seats (obtained from sum of seats) for every transaction which is handled by staff whose gender is male and occurred before the 28th before the month. Show the data based on the Total Sold Seats in descending order.
4. Display Average Refreshment Revenue per Day (started with ‘IDR ‘ and added with the average of quantity multiplied with refreshment price), Transaction Days (obtained from distinct count of refreshment transaction date and ended with ‘ days’) and Female Staff Count (obtained from distinct count of staff and ended with ‘ people’) for every transaction which is handled by staff whose gender is female and the transaction date is before 10 February 2020.
5. Display Staff First Name (started with ‘Mr. ’ added with staff’s first name), Total of Refreshment (obtained from count of refreshment), Total of Quantity Sold (obtained from sum of quantity) for every transaction handled by male staff. Then combine it with Staff First Name (started with ‘Ms. ’ added with staff’s first name), Total of Refreshment (obtained from count of refreshment), Total of Quantity Sold (obtained from sum of quantity) for every transaction handled by female staff.
6. Display Refreshment Transaction ID (obtained from last three number of Transaction ID), Refreshment Transaction Date (obtained from transaction date in ‘mon dd, yyyy’ format) for every refreshment transaction which quantity multiplied by refreshment price is more than average quantity multiplied by refreshment price and refreshment type ID is either ‘RT006’, ‘RT007’, ‘RT008’, ‘RT009’, or ‘RT010’.

(**alias subquery)**

1. Transaction Date (added with the weekday name of transaction date, added with ‘, ‘ and the transaction date itself in ‘dd mon yyyy’ format) and Total Movie Revenue (started with ‘IDR ‘ and combined with total seats multiplied with studio price) for every transaction which less than 30 days before 28 February 2020 and Total Movie Revenue exceeds average seats multiplied by studio price.

(**alias subquery**)

1. Display Staff Last Name (obtained from staff’s last name), RefreshmentTransactionId, RefreshmentName and Price (obtained by adding ‘IDR ‘ in front of the refreshment price) for every transaction which price is more than minimum price of refreshments available for sold and is less than maximum price of refreshments available for sold.

(**alias subquery**)

1. Display Movie Transaction ID (obtained by removing ‘M’ from movie transaction ID and adding ‘ ‘ before last three numbers of the ID), StudioName and Studio Price from (obtained by adding ‘IDR ‘ in front of the studio price) for every transaction which seats bought is between average seats bought and maximum seats bought, and studio price between average studio price and maximum studio price.

(**alias subquery**)

1. Create a view named ‘Movie Schedule Viewer’ to display Studio ID (obtained by replacing ‘ST’ in Studio ID replaced with ‘Studio ‘), StudioName, Total Play Schedule (obtained from total count of movie schedules), and Movie Duration Total (obtained from total sum of movie duration) for Studios which name started with ‘Satin’ and movie duration is longer than 120 minutes.
2. Create a view named ‘Refreshment Transaction Summary Viewer’ to display Transaction Count (obtained from total count of refreshment transactions and combined with ‘ transactions’), Quantity Sold (obtained from total sum of quantity and ended with ‘ products’) for transactions which happened on ‘Saturday’ or ‘Sunday’ and quantity is more than 5.

**File that must be collected**:

1. Entity Relationship Diagram (.vsdx, .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. Use the techniques taught during practicum.
3. Collect appropriate files for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya.
4. 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