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| --- | --- |
| **Project Case** |  |
| ISYS6169 | ISYS6279 | ISYS6280 | T0206  Database Systems |
| **Information Systems** | **O212-ISYS6169-TS05-00** |
| ***Valid on*** *Odd Semester Year 2020/2021* | **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. 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* |
| SQL Server Management Studio 18.5.1  SQL Server Developer 2019  Microsoft Office 365  Visual Paradigm Community Edition 16.1 |

## 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*

**TStore**

**TStore** is a clothing store that is managed by a group of young entrepreneurs. For now, they organize their purchase and sales by hand manually. The activity that the store does is **purchasing clothes from vendor** and **selling the clothes to the customers.** But, as the store grows, they become too burdened by this method. That’s why you, are chosen to help them organize their sales and purchase records.

To improve **TStore’s** management, Mady hired you as a database administrator are required to analyze and design a database for Bob’s shop using **SQL Server Management Studio**.

Every staff that hired by **TStore** have a task to **serve a customer who wants to buy clothes at their store** and **purchase clothes from vendors**. Every staff must be following the procedures to become a staff, which are:

* Every **staff** hired must have a personal information like **name**, **address, phone number**, **gender**, **email**, and **salary**. Every staff has an **identification number** with the following format:

“STXXX”

X => number between 0 – 9

* Staff can purchase clothes from vendors.
* Every **purchase transaction** made with the vendor have all the information about **staff**, **vendor**, **purchase date**, **clothes purchased**, and the **quantity of each cloth**. Every **purchase transaction** has an **identification number** with the following format:

“PUXXX”

X => number between 0 – 9

* Staff can also serve a customer who wants to buy clothes.
* Every **sales transaction** made by the customer have all the information about **staff**, **customer**, **sales date**, **clothes sold**, and the **quantity of each cloth**. Every **sales transaction** has an **identification number** with the following format:

“SAXXX”

X => number between 0 – 9

* Every cloth purchased from vendor and sold by **TStore** have its own **brand**, **price**, **category**, and **the** **stock TStore currently has**. Every **cloth** has an **identification number** with the following format:

“CLXXX”

X => number between 0 – 9

* The **category** of each cloth has its **name** and an **identification number** with the following format

“CAXXX”

X => number between 0 – 9

Every customer that wants to buy clothes at **TStore** must be following the **sales transaction procedures**, those are:

* Every customer that wants to purchase a product must already completed personal information like **name, address, phone number, gender, and email**. Every customer has an **identification number** with the following format:

“CUXXX”

X => number between 0 – 9

* Customer can purchase **more than one cloth** in every transaction.

Every vendor that wants to sell their cloth must be following the **purchase transaction procedures**, those are:

* Every vendor that wants to sell their clothes must already completed personal information like **name**, **address**, **phone number**, and **email**. Every vendor has an **identification number** with the following format:

“VEXXX”

X => number between 0 – 9

* Vendor can sell **more than one cloth** in every transaction.

**Notes:**

* Staff phone number must start with ‘08’ (without quote).
* Staff salary must be more than or equal 3000000.
* Cloth price must be more than or equal 20000.
* Cloth brand must be more than 5 characters.
* Customer Phone must start with ‘08’ (without quote).
* Vendor Phone must start with ‘08’ (without quote).
* Purchase Date must be less than current time minus 1 hour.
* Sales Date must be less than current time minus 1 hour.

As stated above, **TStore** still uses manual management system to maintain the **sales** and **purchase transactions**. You have to create a database system that can store data and maintain the **sales** and **purchase transactions**. The tasks that you must do are:

1. Create **Entity Relationship Diagram** to maintain **sales** and **purchase transactions**.
2. Create a database system using **DDL** **syntax** that relevant with **sales** and **purchase 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 10 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.

1. Create query using **DML syntax** to **simulate** the transactions process for **sales** and **purchase 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 **TStore**, the managers asked you to provide some query that resulting important data. The requirements that asked from them are:
2. Display Transaction Count (obtained from the total transaction), StaffName, and VendorName for each purchase which made by staff whose salary is between 5000000 and 10000000, to a vendor whose name contains character ‘o’.
3. Display SalesId, SalesDate, CustomerName, and CustomerAddress for every sale that happens on 15th day of the month, where the sum of the clothes’ price is more than 150000.
4. Display Month (obtained from month name of one month before current date), Transaction Count (obtained from the total of sales), and Cloth Sold Count (obtained from sum quantity) for each sale which is managed by female staff and the sold cloth price is more than 70000.
5. Display Brand Last Name (obtained from the last word from the ClothBrand) and Maximum Cloth(s) Sold (obtained from maximum quantity) for each sale which the sum of the quantity is more than 5 and less than 10.
6. Display ClothBrand, ClothPrice, and Stock for each purchase where the cloth price is between average price minus 35000 and the average price. The average price is obtained from average cloth price which is purchased from vendor with the first name ‘Saad’.

**(alias subquery)**

1. Display Sales Date (obtained SalesDate with format ‘mm/dd/yyyy’), ClothBrand, Quantity for each sale where the quantity is more than total sales happened in May. Sort the result by Quantity in ascending order.

**(alias subquery)**

1. Display PurchaseId, Staff Name (obtained from lowercase the StaffName), Staff Salary (obtained from adding ‘IDR ’ in front of StaffSalary), Purchase Date (obtained from the PurchaseDate with format ‘Mon dd, yyyy’) and Total Quantity (obtained from the sum of purchased clothes’ quantity) for every purchase where the Quantity is more than MinQuantity (obtained from the minimum quantity from each purchase that happened on the 4th month).

**(alias subquery)**

1. Display Vendor Id (obtained from the last 3 character of VendorId), VendorName, Clothes Bought (obtained from sum of quantity and ended with ‘ piece(s)’), and Vendor Phone (obtained by replacing 2 first digits with ‘+62’) for every purchase where the Clothes Bought is less than 100 and quantity is more than the average quantity of all transactions.

**(alias subquery)**

1. Create a view named ‘**StoreSalesView**’ to display SalesId, CustomerName, CustomerPhone, Cloth Average Price (obtained from average of ClothPrice starts with ‘IDR ’), and Sales Quantity (obtained from the sum of quantity ended with ‘ piece(s)’) for every sales which Cloth Average Price is more than 100000 and the Sales Quantity is more than 4.
2. Create a view named ‘**StorePurchaseView**’ to display the Purchase Month (obtained from the month name of purchase date), Minimum Purchase Quantity (obtained from the minimum of quantity), and Purchased Cloth Count (obtained from the total of clothes purchased) for every purchase where the Minimum Purchase Quantity is more than 10 and the Purchase Cloth Count is more than 1.

**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. 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.