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| **Project Case** |  |
| ISYS6169 | ISYS6169001  Database Systems |
| **Information Systems** | **O222-ISYS6169-DX07-00** |
| ***Valid on*** *Odd Semester Year 2021/2022* | **Revision 01** |

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% | 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 SQL Server Enterprise 2016  Microsoft Word 2010  Microsoft Office Visio 2010 |

## 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* |
| - | VSD, PNG, SQL, BAK |

## Soal

*Case*

**UniDloX**

**UniDloX** is a company specializing in clothing production and distribution. UniDloX managed by your friend, Ian. Ian manages some of activities that belongs to **UniDloX** like **planning a new cloth** and **purchasing a material with supplier**.

Every staff that hired by **Ian** have a task to **serve a customer who wants to buy a cloth** and **purchase a material from supplier**. Every staff must be following the procedures to become a staff, which are:

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

“SFXXX”

X => number between 0 – 9

* Staff can purchase a material from a supplier.
* Every transaction that occurred must have an information about payment type. Every payment type has an identification number with the following format:

“PAXXX”

X => number between 0 – 9

* Every **purchase transaction** made with the supplier have all the information about staff, supplier, transaction date, payment type, materials purchased, and the quantity of each material. Every **purchase transaction** has an identification number with the following format:

“PUXXX”

X => number between 0 – 9

* Every material purchased from supplier have its own name and price. Every **material** has an identification number with the following format:

“MAXXX”

X => number between 0 – 9

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

“SAXXX”

X => number between 0 – 9

* Everycloth sold by **UniDlox** have its own name, stock, and price. Every **cloth** has an identification number with the following format:

“CLXXX”

X => number between 0 – 9

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

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

“CUXXX”

X => number between 0 – 9

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

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

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

“SUXXX”

X => number between 0 – 9

* Supplier can sell **more than one material** in every transaction.

**Notes:**

* Staff address must be between 10 and 15 characters.
* Staff gender must be either “Male” or “Female” (without quote).
* Customer gender must be either “Male” or “Female” (without quote).
* Customer email domain must be either “@gmail.com” or “@yahoo.com” (without quote).
* Supplier name must be greater than 6 characters.
* Cloth stock must be between 0 and 250.
* Material price must be more than 0.

Now **UniDloX** still using manual management system to maintain the **sales** and **purchase transactions**. You as her precious friend wants to help **UniDloX** 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.
* For the **Payment Type** table, the table must be filled with the following data:

|  |  |
| --- | --- |
| Payment Type Names | |
| DANA | Debit Card |
| OVO | Cash |
| Go-Pay | Credit Card |
| Shopee-Pay | Cryptocurrency |
| Cash | Flazz |

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 **Rika Mochi**,Rika asked you to provide some query that resulting important data. The requirements that asked from her are:
2. Display StaffID, StaffName, StaffAddress, SupplierName, Total Purchases (obtained from the total number of purchase) for every purchase which occurs in November and handled by Staff whose the last character of StaffID is an even number.
3. Display SalesID, CustomerName, Total Sales Price (obtained from sum of the cloth price and quantity) for every sales transaction whose CustomerName contains “m” and the total sales price is greater than 2000000.
4. Display Month (obtained from month name), Transaction Count (obtained from the total number of purchases), and Material Sold Count (obtained from the sum of quantity) for every purchase that is managed by staff whose StaffAge between 25 and 30 and the material sold price is more than 150000.
5. Display CustomerName (obtained from customer name in lowercase format), CustomerEmail, CustomerAddress, Cloth Bought Count (Obtained from the total number of cloths bought), and Total Price (obtained by adding “IDR ” in front of the sum of quantity and cloth price) for every transaction which payment using “Cryptocurrency”, “Cash”, or “Shopee-Pay”.
6. Display PurchaseID (obtained from the last 3 characters of the PurchaseID), PurchaseDate, StaffName, and PaymentTypeName for every transaction which served by staff whose gender is female and salary is greater than the average salary of every staff who was born before 1996.

(**alias subquery**)

1. Display SalesID, SalesDate (obtained from SalesDate with “Mon dd, yyyy” format), CustomerName, CustomerGender for every transaction which occurred in 2021 and quantity is lower than the minimum quantity of all transaction that occurred on the 15th day of the month.

(**alias subquery**)

1. Display PurchaseID, SupplierName, SupplierPhone (obtained by replacing SupplierPhone first character into ‘+62’), PurchaseDate (obtained from the weekday of the PurchaseDate), Quantity for every transaction which occurred on Friday until Sunday and quantity is greater than average of total quantity (obtained from sum of the quantity) for every purchase.

(**alias subquery**)

1. Display CustomerName (obtained by adding “Mr. ” in front of the CustomerName if CustomerGender is Male or “Mrs. ” if CustomerGender is female), CustomerPhone, CustomerAddress, CustomerDOB (obtained from SalesDate with “dd/mm/yyy” format), and Cloth Count (obtained from the total number of cloths bought) for every customer which has the highest total number of cloth bought and CustomerName contains “o”.

(**alias subquery**)

1. Create a view named “ViewCustomerTransaction” to display CustomerID, CustomerName, CustomerEmail, CustomerDOB, Minimum Quantity (obtained from the minimum quantity purchased), Maximum Quantity (obtained from the maximum quantity purchased) for every customer whose born in 2000 and later and has an email domain “@yahoo.com”
2. Create a view named “ViewFemaleStaffTransaction” to view StaffID, StaffName (obtained by uppercasing StaffName), StaffSalary (obtained by adding “Rp. ” in front of the StaffSalary and ends with “,00”), Material Bought Count (obtained from count of the material bought and ends with “ Pc(s)”) for every staff whose gender is female and salary is greater than average of all staff salaries.

**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