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| **Project Case** |  |
| ISYS6169 | ISYS6169001 | ISYS6169016 | ISYS6169049 | ISYS6123003  Database Systems | Introduction to Database System |
| **Information Systems** | **E222-ISYS6169001-AD02-00** |
| ***Valid on*** *Even Semester Year 2021/2022* | **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% | 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 Office 365  SQL Server Developer 2019  SQL Server Management Studio 18.9.1  Visual Paradigm Community Edition 16.3 |

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

*File extensions should be included in assignment 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*

**lADtop**

**lADtop** is a laptop shop that sells the best laptop to use managed by Andra. Andra manage all of activities that belongs to **lADtop** like **selling a laptop to customer** and **purchasing a laptop with vendor**.

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

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

“STXXX”

X => number between 0 – 9

* Staff can purchase **one or many laptops** with a vendor.
* Every **purchase** made with the vendor have all the information about staff, vendor, purchase date, laptops purchased, and the quantity of each laptop. Every **purchase** has an identification number with the following format:

“PUXXX”

X => number between 0 – 9

* Every **laptop** purchased from vendor have its own information like brand, name, price. Every **laptop** has an identification number with the following format:

“LAXXX”

X => number between 0 – 9

* Every **laptop brand** has information about the name. Every **laptop brand** has an identification number with the following format:

“LBXXX”

X => number between 0 – 9

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

“TRXXX”

X => number between 0 – 9

Every **customer** that wants to buy laptop at **lADtop** must be following the **transaction procedures**, those are:

* Every **customer** that wants to purchase a product must already completed personal information like name, gender, address, phone number, and email. 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 **vendor** that wants to sell their laptop must be following the **purchase procedures**, those are:

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

“VEXXX”

X => number between 0 – 9

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

**Notes:**

* Staff gender must be either “Male” or “Female” (without quote).
* Staff email must ends with “@gmail.com” or “@yahoo.com” (without quote).
* Staff salary must be between 5000000 and 10000000.
* Laptop price must be more than 5000000.
* Vendor email must ends with “@gmail.com” or “@yahoo.com” (without quote).
* Purchase date must be lower or equals to current time.
* Customer name must be more than 2 characters.
* Customer gender must be either “Male” or “Female” (without quote).
* Customer email must ends with “@gmail.com” or “@yahoo.com” (without quote).
* Transaction date must be lower or equals to current time.
* All data must not be null.

Now **lADtop** still using manual management system to maintain the **transaction** and **purchase**. You as his precious friend wants to help **lADtop** to create a database system that can store data and maintain the **transaction** and **purchase**. The tasks that you must do are:

1. Create Entity Relationship Diagram to maintain **transaction** and **purchase**.
2. Create a database system using DDL syntax that relevant with **transaction** and **purchase**.
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 **Laptop Brand** table, the table must be filled with the following data:

|  |  |
| --- | --- |
| Laptop Brand Names | |
| Asus | Acer |
| Lenovo | MSI |
| Hp | Dell |
| Samsung | Razer |
| Apple | Toshiba |

1. Create query using DML syntax to simulate the transactions process for **transaction** and **purchase**.

**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 **lADtop**,Andra asked you to provide some query that resulting important data. The requirements that asked from him are:
2. Display Customer Name (obtained from the CustomerName starts with 'Mr. '), CustomerGender, and Total Transaction (obtained from the total transaction) for each customer whose name contains at least two words and gender is 'Male'.
3. Display LaptopId, LaptopName, LaptopBrandName, LaptopPrice, and Total of Laptop That Has Been Sold (obtained from the total quantity of the laptop that has been sold) for each laptop price more than 10000000, last three digit of laptop id must be an even number and Total of Laptop That Has Been Sold more than 3
4. Display StaffId (obtained by replacing StaffId 'ST' with 'Staff '), StaffName, Total Transaction Handled (obtained from the total transaction that has been handled), and Maximum Quantity in One Transaction (obtained from the maximum purchase in one transaction) for every transaction that occurs in the month of April, StaffGender equals to Female, and Total Transaction Handled more than 2.
5. Display CustomerName, CustomerEmail, Total Purchase (obtained from the total customer's purchase and ends with ' Purchase(s)'), and Total of Laptop That Has Been Purchased (obtained from the total of laptop that has been purchased by customer) for every CustomerEmail ends with '@gmail.com' and Total of Laptop That Has Been Purchased more than 2.
6. Display VendorName (obtained from the VendorName replacing 'PT' with 'Perseroan Terbatas'), PurchaseDate, Laptop ID Number (obtained from the last three characters of LaptopId), and Quantity for every Quantity more than avarage of purchasing quantity and VendorName contains 'e'.

(**alias subquery**)

1. Display Name (obtained from LaptopBrandName in uppercase format and LaptopName with space between them) and Price (obtained from the LaptopPrice starts with 'Rp. ') for every Price more than avarage of LaptopPrice and LaptopName contains 'e'.

(**alias subquery**)

1. Display Laptop ID Number (obtained from the last three characters of LaptopId), LaptopName, Brand (obtained from LaptopBrand in uppercase format), Price (obtain from LaptopPrice starts with 'Rp. '), and Total of Laptop That Has Been Sold (obtained from the total quantity of the laptop that has been sold) for every LaptopPrice more than 15000000 and Total of Laptop That Has Been Sold more than avarage of total quantity of the Laptop that has been sold.

(**alias subquery**)

1. Display Staff First Name (obtained from the first word of StaffName), Staff Last Name (obtained from the first space of StaffName until last character of the StaffName), and Total of Laptop That Has Been Sold (obtained from the total quantity of the laptop that has been sold) for every StaffName contains one space and Total of Laptop That Has Been Sold more than average of total quantity of the laptop that has been sold.

(**alias subquery**)

1. Create a view named 'Vendor\_Minimum\_Transaction\_View' to display Vendor ID (obtained by replacing VendorId 'VE' with 'Vendor '), VendorName, Total Transaction Handled (obtained from the total transaction that has been handled), and Minimum Purchases in One Transaction (obtained from the minimum purchase in one transaction) for every transaction that occurs in the month of May.
2. Create a view named 'Staff\_Max\_Laptop\_Purchased\_View' to display StaffName, StaffEmail (obtained from StaffEmail with uppercase format), Total Purchase (obtained from the total Staff's purchase), and Maximum of Laptop That Has Been Purchased in One Purchase (obtained from the maximum purchase in one transaction) for every StaffEmail ends with '@gmail.com'.

**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