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| --- | --- |
| **Project Case** |  |
| ISYS6169 | ISYS6169001  Database Systems |
| **Information Systems** | **O222-ISYS6169-AD04-00** |
| ***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*

**cArDorm**

**cArDorm** is a car shop that sells the best car to drive managed by Andro. Andro manage all of activities that belongs to **cArDorm** like **selling a car to customer** and **purchasing a car with vendor**.

Every staff that hired by **cArDorm** have a task to **serve a customer who wants to buy a car** and **purchase a car 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 cars** with a vendor.
* Every **purchase** made with the vendor have all the information about staff, vendor, purchase date, cars purchased, and the quantity of each car. Every **purchase** has an identification number with the following format:

“PUXXX”

X => number between 0 – 9

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

“CAXXX”

X => number between 0 – 9

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

“CBXXX”

X => number between 0 – 9

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

“TRXXX”

X => number between 0 – 9

Every **customer** that wants to buy car at **cArDorm** 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 car must be following the **purchase procedures**, those are:

* Every supplier that wants to sell their ingredient 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 ingredient** 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.
* 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 **cArDorm** still using manual management system to maintain the **transaction** and **purchase**. You as his precious friend wants to help **cArDorm** 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 **Car Brand** table, the table must be filled with the following data:

|  |  |
| --- | --- |
| Car Brand Names | |
| Tayato | Chovrelot |
| Dihatsu | Vilvi |
| Nassin | Masdah |
| Mutsibushu | Kai |
| Uadi | Luxes |

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 **cArDorm**,Andro asked you to provide some query that resulting important data. The requirements that asked from him are:
2. Display CustomerName (obtained from the CustomerName starts with ‘Mrs. ’), CustomerGender (obtained from the CustomerGender with uppercase format), and Total Transaction (obtained from the count of transaction that have been done by customer) for each customer name contains two words and customer gender is ‘Female’
3. Display CarId, CarName, CarBrandName, CarPrice, and Total of Car That Has Been Sold (obtained from the sum of quantity from the transaction that has been done by customer and ends with ‘ Car(s)’) for each CarPrice more than 300000000, three last characters from CarId is odd, and Total of Car That Has Been Sold more than 1.
4. Display StaffId (obtained from the StaffId by replacing ‘ST’ with ‘Staff ’), StaffName, Total Transaction Handled (obtained from the count of transaction that has been handled by staff), and Maximum Quantity in One Transaction (obtained from the max of car quantity in one transaction that has been handled by staff) for every transaction made in ‘April’, Staff Name consists of two words, Total Transaction Handled more than 1 and descending sort by Maximum Purchases in One Transaction.
5. Display CustomerName, CustomerGender (obtained from the first character of CustomerGender), Total Purchase (obtained from the count of transaction that has been done by customer), and Total of Car That Has Been Purchased (obtained from the sum of car quantity in transaction that has been done by customer) for every customer email ends with ‘@gmail.com’ and Total of Car That Has Been Purchased more than 2.
6. Display VendorName (obtained from the VendorName by replacing ‘PT’ with ‘Perseroan Trebatas’), VendorPhoneNumber, Purchase ID Number (obtained from the three last characters from PurchaseId), and Quantity for every Quantity more than average of the Quantity in transaction that has been handled by vendor and VendorName contains ‘a’.

(**alias subquery**)

1. Display Name (obtained from the CarBrandName and CarName in uppercase format with space between them), Price (obtained from the CarPrice starts with ‘Rp. ’), and Stock (obtained from the CarStock starts with ‘ Stock(s)’) for every CarPrice more than average of the CarPrice and CarName contains ‘e’.

(**alias subquery**)

1. Display Car ID Number (obtained from the three last characters from CarId), CarName, Brand (obtained from the CarBranName in uppercase format), Price (obtained from the CarPrice starts with ‘Rp. ’), and Total of Car That Has Been Sold (obtained from the sum of car quantity purchased for each car brand name and car name) for every CarPrice more than 200000000 , CarName contains ‘o’, and Total of Car That Has Been Sold more than average of the sum of car quantity purchased for each car brand name and car name.

(**alias subquery**)

1. Display Staff First Name (obtained from the first word in StaffName), Staff Last Name (obtained from the last word of Staff Name), and Total of Car That Has Been Sold (obtained from the sum of car quantity sold for each transaction) for every StaffName contains two words and Total of Car That Has Been Sold more than average of the sum of car quantity sold for all transaction.

(**alias subquery**)

1. Create a view named ‘Vendor\_Transaction\_Handled\_and\_Minimum\_View’ to display Vendor ID (obtained from the VendorId by replacing ‘VE’ with ‘Vendor ’), VendorName, Total Transaction Handled (obtained from the count of purchase that has been handled by vendor), and Minimum Purchases in One Transaction (obtained from the minimum of quantity in one purchase that has been handled by vendor) for every PurchaseDate made in ‘May’ and VendorName contains ‘a’.
2. Create a view named ‘Staff\_Total\_Purchase\_and\_Max\_Car\_Purchase\_View’ to display StaffID, StaffName, StaffEmail (obtained from the StaffEmail in uppercase format), Total Purchase (obtained from the count of purchase that has been done by staff), and Maximum of Car That Has Been Purchased in One Purchase (obtained from the max of car quantity in purchase that has been done by staff), for every StaffEmail ends with ‘@yahoo.com’ and StaffGender is ‘Female’.

**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