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| **Project Case** |  |
| ISYS6169 | ISYS6169001  Database Systems |
| **Information Systems** | **O222-ISYS6169-EN02-00** |
| ***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*

**ENTV**

**ENTV** is a television shop managed by your friend, Erwin. Erwin manage all of activities that belongs to **ENTV** like **selling a television to customer** and **purchasing a television with vendor**.

Every staff that hired by **ENTV** have a task to **serve a customer who wants to buy a television** and **purchase a television 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, email, gender, phone number, address, salary and date of birth. Every staff has an identification number with the following format:

“STXXX”

X => number between 0 – 9

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

“PEXXX”

X => number between 0 – 9

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

“SAXXX”

X => number between 0 – 9

* Every television purchased from vendor and sales to customer have its own name and price. Every **television** has an identification number with the following format:

“TEXXX”

X => number between 0 – 9

* Every **television** have its own **brand name**. Every **television brand** has an identification number with the following format:

“TBXXX”

X => number between 0 – 9

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

* Every customer that wants to purchase a product must already completed personal information like name, email, gender, phone number, address, 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 television** in every transaction.

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

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

“VEXXX”

X => number between 0 – 9

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

**Notes:**

* Staff phone must be starts with “+62” (without quote).
* Staff year of birth must be less or equal to 2000.
* Staff gender must be either “Male” or “Female” (without quote).
* Customer email must be end with either “@yahoo.com” or “@gmail.com”.
* Customer gender must be either “Male” or “Female” (without quote).
* Customer phone must be starts with “+62” (without quote)
* Television price must be between 1000000 and 20000000.
* Vendor name length must be more than 3 characters.
* All data must be completely filled
* any changes happen to a data can affect the other data

example: if a data is deleted, other data as well as transactions related will be deleted, this works too for the update

Now **ENTV** still using manual management system to maintain the **sales** and **purchase transactions**. You as his best friend wants to help **ENTV** 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 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.

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, VendorName, and Total Transaction (Obtained from counting the purchase transaction) for every transaction happens later than August and StaffName starts with letter 'B’.
3. Display CustomerID (obtained by last 3 characters), CustomerName, and Total Spending (obtained from sum of all TelevisionPrice times Quantity) for every CustomerName contains letter 'a' and TelevisionName contains 'LED'.
4. Display StaffName (obtained from the first name of the Staff), TelevisionName, and Total Price (obtained from sum of all TelevisionPrice times Quantity) for every transaction happens more than twice and TelevisionName contains 'UHD'.
5. Display TelevisionName (obtained from TelevisionName in upper case format), Max Television Sold (obtained from the maximum quantity that has been sold in one transaction end with the word ‘ Pc(s)’), Total Television Sold (obtained from sum of the quantity that sold in all transaction end with the word ‘ Pc(s)’) for every Television which price is more than 3000000 and sales happens after February, order it by Total Television Sold ascendingly.
6. Display VendorName,VendorPhone (obtained from vendorPhone with ‘+62’ replace by ‘0’), TelevisionName, TelevisionPrice (obtained from adding ‘Rp. ’ before TelevisionPrice) for every Television which price more than average of all TelevisionPrice and VendorName must be at least 2 words.

(**alias subquery**)

1. Display StaffID, StaffName, StaffEmail (obtained from words before ‘@’), and StaffSalary for every StaffSalary more than average of StaffSalary and taken care transaction for customer whose name contains ‘o’.

(**alias subquery**)

1. Display TelevisionID (obtained from replacing ‘TE’ to ‘Television ’), TelevisionName, TelevisionBrand (obtained from TelevisionBrand in upper case format), and TotalSold (obtained from the sum of quantity sold to customer end with the word ‘ Pc(s)’) for every TelevisionName that contains the word ‘LED’ and TotalSold more than average of the total sold of all television , order it by TotalSold ascendingly.

(**alias subquery**)

1. Display VendorName, VendorEmail, VendorPhone (obtained by replacing VendorPhone first character into ‘+62’), and Total Quantity (obtained from the sum of quantity purchased and ended with ‘ Pc(s)’) for every purchase which television price is higher than the maximum television price in every purchase that occurred between the 3th and 6th month of the year and VendorName must at least 2 words.

(**alias subquery**)

1. Create a view named ‘CustomerTransaction’ to display CustomerName, CustomerEmail, Maximum Quantity Television (obtained from the maximum quantity sold and ended with ‘ Pc(s)’), and Minimum Quantity Television (obtained from the minimum quantity purchased and ended with ‘ Pc(s)’) for every customer whose name contains ‘b’ and the maximum quantity isn’t equal to its minimum quantity.
2. Create a view named 'StaffTransaction' to display StaffName, StaffEmail, StaffPhone, Count Transaction (obtained from total number of transaction), and Total Television (obtained by total quantity of television purchased) for every transaction that the date of transaction happened later than 10th day and staff email 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