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| **Project Case** |  |
| ISYS6169 | ISYS6279 | ISYS6280 | T0206 Database Systems |
| **Information Systems** | **E182-ISYS6084-AD02-00** |
| ***Valid on*** *Odd Semester Year 2019/2020* | **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. 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 Office 365 (Word, Excel)  Microsoft Office Visio 2013 |

## 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* | **UAP**  *Final Exam* |
| - | VSD / VSDX, Image Files (JPG / PNG), SQL | SQL |

## Soal

*Case*

**Ramen Shop**

**Ramen Shop** is a shop that sells various types of ramen. **Ramen Shop** manages transactions like **sales** and **purchase transaction**. **Sales transaction** is the transaction that happened when customer wants to buy a ramen which will be handled by a staff. **Purchase transaction** is the transaction that happened when staff wants to restock some ingredient from a supplier.

In **Ramen Shop**, every customer who wants to buy a ramen must be following the **sales transaction procedures**, which are:

* **Customer** who wants to buy a ramen must complete personal information like name, date of birth, gender, address, and phone number. Every **customer** has an identification number with the following format:

“CUXXX”

X => number between 0 – 9

* Every **sales transaction** made by the customer have all the information about the staff, the customer, the transaction date, the ramen(s) purchased, and the quantity of each ramen. Each **sales transaction** has an identification number with the following format:

“SLXXX”

X => number between 0 – 9

* Every **ramen** has a complete information like name, price, and an identification number with the following format:

“RAXXX”

X => number between 0 – 9

* Every **ramen** has **recipe detail(s)** that have all information about the ramen, the ingredients, and the quantity of the ingredient.
* Each **ingredient** has a complete information like name, stock, and an identification number with the following format:

“RIXXX”

X => number between 0 – 9

* Every **staff** has a complete personal information like name, gender, date of birth, phone, address, salary, and an identification number with the following format:

“STXXX”

X => number between 0 – 9

In **Ramen Shop**, every staff who wants to restock some ingredients in **Ramen Shop** must be following the **purchase procedures**, which are:

* Every **purchase transaction** made by the staff have all the information about the staff, the supplier, the transaction date, the ingredient(s) purchased, and the quantity of each ingredient. Each **purchase transaction** has an identification number with the following format:

“PUXXX”

X => number between 0 – 9

* Each **supplier** has a complete personal information like name, address, phone number, and an identification number with the following format:

“SPXXX”

X => number between 0 – 9

**Notes:**

* Staff and customer gender can only be filled with “Male” or “Female” value (without quote).
* Staff, customer, and supplier address must be ends with “Street” (without quote).
* The length of supplier name must be between 5 and 50 characters.
* Staff salary must be between 1500000 and 3500000.
* Ramen name must consist of at least two words.

Now **Ramen Shop** still using manual management system to maintain the **sales transactions** and **purchase transactions**. You as database administrator in **Ramen Shop** are asked 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 transactions** and **purchase transactions**.
2. Create a database system using DDL syntax that relevant with **sales transaction** and **purchase** **transaction** procedures. The database system must include database and tables with the required procedures.
3. Create query using DML syntax to simulate the transactions process for **sales transaction** and **purchase transaction**. Before start to create query to simulate the transactions, first do the following tasks:
   1. **Master** table must be filled with more than or equals 10 data
   2. **Transaction** table must be filled with more than or equals 15 data
   3. **Transaction detail** table must be filled with more than or equals 25 data
4. Create query using DML syntax to simulate the transactions process for **sales** **transactions** 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 **Ramen Shop** themanager of **Ramen Shop** asked you to provide some query that resulting important data. The requirements that asked from the manager are:
   1. Display RamenID, RamenName, and Total Ingredient (obtained from count of ingredients and ends with ‘Ingredients’) for every ramen which has an ingredient with a stock less than 25 and the Total Ingredient is more than one.
   2. Display Number of Sales (obtained from the count of sales transaction), CustomerName, Gender (obtained from the first letter of CustomerGender), and StaffName for every sales transaction which is handled by staff whose gender is female and year difference between the staff’s date of birth and the customer’s date of birth is more than 5.
   3. Display Purchase Date (obtained from purchase date in ‘dd/mm/yyyy’ format), StaffName, SupplierName, Total Ingredient (obtained from the count of ingredient purchased) and Total Quantity (obtained from the sum of ingredient quantity) for every purchase transaction that occurs in 2016 and the length of SupplierName is less than 15.
   4. DisplayCustomerName, CustomerPhone, Sales Day (obtained from the day name of SalesDate. Example: “Monday”), Variant Ramen Sold (obtained from the count of ramen sold) for every sales transaction that occurs in March and the sum of sales quantity is greater than 10.
   5. Display PurchaseID, RamenIngredientName, Quantity, StaffName, Staff Phone (obtained by replacing the first character with ‘+62’), and Staff Salary (obtained by adding ‘Rp. ‘ in front of StaffSalary) for every purchase that occurs in 2017 and handled by a staff whose salary is more than the average salary of all staff.

(**alias subquery**)

* 1. Display Staff ID (obtained by replacing the first two characters with ‘Staff ’), StaffName, Sales Date (obtained from sales date in ‘Mon dd, yyyy’ format), and Quantity for every staff whose salary is less than average salary of all staff and the staff’s name consists of at least 3 words.

(**alias subquery**)

* 1. Display Total Ramen Sold (obtained from the count of ramen from sales transaction), Customer Last Name (obtained from customer’s last name), StaffName, and SalesDate for every sales transaction which has a quantity less than average quantity of all sales and the customer’s name length is greater than 15 characters.

(**alias subquery**)

* 1. Display SalesID, CustomerName, Gender (obtained from the first character of CustomerGender), Ramen Name, and Total Price (obtained from total sum of ramen price and ends with ‘ IDR’) for every sales which has a ramen which price is greater than minimum price of all ramen and the year difference between current date and customer date of birth is below 17.

(**alias subquery**)

* 1. Create a view named ‘**ViewSales**’ to display CustomerName, Number of Sales (obtained from the count of different sales transaction), and Total Price (obtained from the sum of ramen price times quantity) for every sales transaction that occurs before 2017 and the customer’s address starts with ‘Pasar’.
  2. Create a view named ‘**PurchaseDetail**’ to display Number of Item Purchased (obtained from the sum of quantity and ends with ‘Pcs’), Number of Transaction (obtained from the count of different purchase transaction), SupplierName, and StaffName for every purchase that occurs in 2016 and handled by a staff whose gender is male.

**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