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| **Project Case** |  |
| ISYS6169 | ISYS6279 | ISYS6280 | T0206  Database Systems |
| **Information Systems** | **O202-ISYS6169-RA02-00** |
| ***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* |
| - | VSD / VSDX, Image Files (JPG / PNG), SQL |

## Soal

*Case*

**RA’Laundry**

**RA’Laundry** is a laundry store that handled laundry services. **RA’Laundry** manage transactions like **service** and **purchase transactions**. **Service transaction** is a transaction that happened when customer wants to laundry their clothes, while **Purchase transaction** is a transaction that happened when the store wants to restock their material (equipment/supplies) from a vendor.

In **RA’Laundry**, every staff that wants to restock a material must be following the **purchase transaction procedures**, which are:

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

“STXXX”

X => number between 0 – 9

* Staff can **purchase a material** with a vendor.
* Staff can also **serve a customer** who wants to do laundry.
* Every **purchase transaction** made with the vendor have all the information about staff, vendor, purchase date, 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 vendor have its own name, material type, and material price. Every **material** has an identification number with the following format:

“MAXXX”

X => number between 0 – 9

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

“VEXXX”

X => number between 0 – 9

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

In **RA’Laundry**, every **customer** who wants to do laundry must be following the **service transaction procedures**, which are:

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

“CUXXX”

X => number between 0 – 9

* Every **service transaction** made by the customer have all the information about staff, customer, service date, clothes to be washed, service type, and service price. Every **service transaction** has an identification number with the following format:

“SRXXX”

X => number between 0 – 9

* Every **clothes** that will be laundry have its own name, and clothes type. Every **clothes** have an identification number with the following format:

“CLXXX”

X => number between 0 – 9

* Customer can laundry **more than one clothes** in every transaction.

**Notes:**

* Material type must be either “Equipment” or “Supplies” (without quote).
* Customer gender must be either “Male” or “Female” (without quote).
* Staff salary must be between 1500000 and 3000000.
* Clothes type must be either “Cotton”, “Viscose”, “Polyester”, “Linen”, or “Wool” (without quote).
* Vendor address must be more than 10 characters.
* Purchase transaction can only be entered in the same year.
* Service transaction can only be entered in the same year.
* Service type must be either “Laundry service”, “Dry Cleaning Service”, or “Ironing Service” (without quote).

Now **RA’Laundry** still using manual management system to maintain the **service** and **purchase transactions**. You as database administrator in **RA’Laundry** are asked to create a database system that can store data and maintain the **service transactions** and **purchase transactions**. The tasks that you must do are:

1. Create Entity Relationship Diagram to maintain **service** and **purchase transactions**.
2. Create a database system using DDL syntax that relevant with **service** and **purchase transactions**. The database system must include database and tables with the required procedures.
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.

1. Create query using DML syntax to simulate the transactions process for **service** 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 **RA’Laundry**,the owner asked you to provide some query that resulting important data. The requirements that you must do are:
2. Display CustomerId, CustomerName, and TotalServicePrice (obtained from sum of service price) for every service transaction that occurred on July and the customer gender is male.
3. Display StaffName, PurchaseDate, and TotalTransaction (obtained from count of purchase transaction) for each staff whose name contains ‘o’ and TotalTransaction is greater than 1.
4. Display VendorName, PurchaseDate (obtained from PurchaseDate in ‘Mon dd,yyyy’ format), TotalTransaction (obtained from count of purchase transaction), and TotalPurchasePrice (obtained from the sum of quantity\*material price) for every vendor whose name starts with ‘PT. ’ and transaction occurred at odd day.
5. Display StaffName, MaterialName, TotalTransaction (obtained from count of purchase transaction), and TotalQuantity (obtained from sum of quantity and ended with ‘ pcs’) for every purchase transaction that occurred in July and TotalQuantity is less than 9.
6. Display MaterialId (obtained by replacing ‘MA’ with ‘Material ’), MaterialName (obtained from material name in uppercase format), PurchaseDate, and Quantity where material type is ‘Supplies’ and quantity is greater than average quantity. Then sort by MaterialId in ascending format.

(**alias subquery**)

1. Display StaffName, CustomerName, and ServiceDate (obtained from ServiceDate in ‘dd Mon yyyy’ format) which handled by staff whose salary is more than the average salary and staff name only has one word.

(**alias subquery**)

1. Display ClothesName, TotalTransaction (obtained from count of service and ended with ‘ transaction’), ServiceType (obtained from the first word of service type), and ServicePrice where the service price is less than the average of service price and clothes type is ‘Cotton’.

(**alias subquery**)

1. Display StaffFirstName (obtained from the first word of staff name), VendorName, VendorPhoneNumber (obtained from vendor phone number by replacing ‘08’ with ‘+628’), and TotalTransaction (obtained from the count of purchase) for every transaction which quantity is greater than the average quantity and staff name at least consists of two words.

(**alias subquery**)

1. Create a view named ‘**ViewMaterialPurchase**’ to display MaterialName, MaterialPrice (obtained by adding ‘Rp. ’ in front of the material price and in money format), TotalTransaction (obtained from count of purchase), and TotalPrice (obtained from sum of quantity\*material price) where material type is ‘Supplies’ and TotalTransaction is greater than 2.
2. Create a view named ‘**ViewMaleCustomerTransaction**’ to display CustomerName, ClothesName, TotalTransaction (obtained from count of service), and TotalPrice (obtained from sum of service price) for every male customer and the clothes type are ‘Wool’ and ‘Linen’.

**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