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| --- | --- |
| **Project Case** |  |
| ISYS6169 | ISYS6169001 | ISYS6169016 | ISYS6169049 | ISYS6123003  Database Systems | Introduction to Database System |
| **Information Systems** | **E222-ISYS6169049-ES01-00** |
| ***Valid on*** *Even 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 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*

**Baskin Bob’in**

**Baskin Bob’in** is an Ice Cream shop run by your friend, Elijah. As the name implies, this shop sells Premium Ice Cream in various flavor and taste. Elijah manages all activities in **Baskin Bob’in** such as **selling Ice Cream to customers** and **purchasing ingredient from the supplier**.

Every staff that hired by **Baskin Bob’in** has a task to **serve a customer who wants to buy a Ice Cream** and **purchase an ingredient from the supplier**. Every staff must be following the procedures to become a staff, which are:

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

“STXXX”

X => number between 0 – 9

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

“POXXX”

X => number between 0 – 9

* Every **ingredient** purchased from the supplier has its **name**, **stock**, and **purchase price**. Every **ingredient** has an identification number with the following format:

“IGXXX”

X => number between 0 – 9

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

“SLXXX”

X => number between 0 – 9

Every customer that wants to buy Ice Cream at **Baskin Bob’in** must be following the **sales transaction procedures**, those are:

* Every customer that wants to purchase a product must already complete personal information like **name, date of birth, gender, address, email, and phone number**. Every customer has an identification number with the following format:

“CSXXX”

X => number between 0 – 9

* Each **Ice cream** sold to the customer’s has its **name**, **sales price**, and **stock**. Each **Ice Cream** has an identification number with the following format:

“ICXXX”

X => number between 0 – 9

* Customer can purchase **more than one Ice Cream** in every transaction.

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

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

“SPXXX”

X => number between 0 – 9

* Supplier can sell **more than one ingredient** in every transaction.

**Notes:**

* Staff date of birth must be less than or equals 2002.
* Staff phone length must equal 12 characters or 13 characters.
* Staff email must be contained ‘@’ (without quote).
* Supplier email must be contained ‘@’ (without quote).
* Supplier phone length must equal 12 characters or 13 characters.
* Customer email must be contained ‘@’ (without quote).
* Customer phone length must equal 12 characters or 13 characters.
* Ice Cream stock must be between 0 and 100.

Now **Baskin Bob’in** still using a manual management system to maintain the **sales** and **purchase transactions**. You as her precious friend want to help **Baskin Bob’in** 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**. BELUM
2. Create a database system using DDL syntax that is relevant to **sales** and **purchase transactions**. SUDAH
3. Create query using DML syntax to fill the tables in database systems with data based on the following conditions: SUDAH

* **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 **sales** and **purchase transactions**. BELUM

**Note**: DML syntax to **fill database** and DML syntax to **simulate** the **transactions process** should be a **different query**.

1. To support the database management process in **Baskin Bob’in**,Elijah asked you to provide some queries that resulting important data. The requirements that asked from her are:
2. Display SupplierName, PurchaseDate, Total Ingredient Purchased (obtained from the sum of the quantity) for every purchase date is before the 20th day of the month and the supplier’s email contains “yahoo” in their email.
3. Display StaffName, SalesDate (obtained from sales date in ‘dd mon yyyy’ format), and Total Sales (obtained from the total of sales transactions) for every staff salary is less than 5000000 and sales occurred on Wednesday or Saturday.
4. Display StaffName, Average Purchase Quantity (obtained from average purchase quantity), Total Ingredient Supplied (obtain from the sum of purchase quantity), for every transaction handled by staff whose gender is female and total Ingredient Supplied more than 9.
5. Display SupplierName, Total Purchase (obtained from the total of the purchase transaction), and Average Purchase Price (obtained from the average of ingredient’s purchase price and started with ‘Rp. ’) for every transaction occurred in month 8 and supplier name contain three words.
6. Display SupplierName, SupplierPhone (obtained by replacing supplier phone first character into ‘+62’), PurchaseDate, StaffName, and Quantity (obtain by adding ‘ item’ at the end of total purchase quantity) for every transaction that quantity is greater than the average of all purchase quantity and the transaction occurred in September or December.

(**alias subquery**)

1. Display Customer ID (obtained by replacing ‘CS’ with ‘Customer ’), Handle by (obtained by replacing ‘ST00’ into ‘Staff ’), Total Ice Cream Sales Price (obtained from the total of sales price times quantity and adding ‘Rp. ’ in front of Total Ice Cream Sales Price), IceCreamName, and Quantity for every transaction where the sales price is the lowest and quantity more than 3.

(**alias subquery**)

1. Display Last Name (obtained from staff’s last name), Total Sales Has been done (obtained from the total of the sales transaction), and StaffSalary for every transaction handled by male staff that has salary less than the average of all staff salary.

(**alias subquery**)

1. Display Staff Initial (obtained from the first character of staff’s name and last character of staff’s name in uppercase format), CustomerID, Total Sales (obtained from the total of sales transaction), SalesDate for every transaction that quantity is the smallest and which is the customer id served by staff ends with an even number.

(**Alias subquery**)

1. Create a view named ‘**ViewPurchaseTransaction**’ to display StaffEmail, Purchase Date, Total Purchase Ingredient (obtained from the sum of quantity), and Total Purchase Transaction (obtained from the total of the purchase transaction) for every staff whose born over 2001 and total purchase Ingredient more than 10.
2. Create a view named ‘**ViewSalesTransaction**’ to display StaffName, Sales Date (obtained from sales date in ‘Mon dd, yyyy’ format), Total Sales Transaction (obtained from the total of sales transaction), Total Sales Quantity (obtained from the sum of quantity) for every transaction that Ice Cream’s sales price is greater than 45000 and total sales transaction is less than 5.

**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