**Property Management System**

**Reports*:***

1. **Termination Report**

**Benefits & business uses (value) of report:**

The "Termination Report" is designed to help property managers and landlords track and manage the termination of leases within their property or rental portfolio. The report provides valuable insights into lease terminations and categorizes them into two main types: "Forceful Termination" and "Natural Lease End." It also breaks down upcoming terminations into three categories based on their proximity to the current date: "next 30 days," "next 60 days," and "more than 60 days."

**Written Code:**

**SELECT** t.Tenant\_ID Tenant\_ID

,p.S\_First\_Name Tenant\_First\_Name

,p.S\_Last\_Name Tenant\_Last\_Name

,u.Unit\_ID Unit\_ID

,u.S\_Unit\_Name Unit\_Name

,**date**(ta.Date\_End) Lease\_End

,**date**(ta.Date\_Start) Lease\_Start

,at2.Amendment\_Type Amendment\_Type

,**case**

**when** at2.Amendment\_Type\_ID =3

**then** 'Forceful Termination'

**else** 'Natural Lease End'

**end** **as** Termination\_Type

,nvl(**case** **when** **DATEDIFF**(ta.Date\_End,**sysdate**())**between** 0 **and** 30 **then** **DATEDIFF**(ta.Date\_End,**sysdate**()) **end**,0) **as** next30days

,nvl(**case** **when** **DATEDIFF**(ta.Date\_End,**sysdate**()) **between** 30 **and** 60 **then** **DATEDIFF**(ta.Date\_End,**sysdate**()) **end**,0) **as** next60days

,nvl(**case** **when** **DATEDIFF**(ta.Date\_End,**sysdate**())>60 **then** **DATEDIFF**(ta.Date\_End,**sysdate**()) **end**,0) **as** morethan60days

**FROM**

TENANT\_AMENDMENT ta **join** TENANT t **on** ta.Tenant\_ID=t.Tenant\_ID

**join** AMENDMENT\_TYPE at2 **on** at2.Amendment\_Type\_ID=ta.Amendment\_Type\_ID

**join** UNIT\_ASSIGNMENT ua **on** ua.Tenant\_ID =t.Tenant\_ID

**join** UNIT u **on** u.Unit\_ID =ua.Unit\_ID

**join** PERSON p **on** p.Person\_ID =t.Person\_ID

**where**

**DATEDIFF**(ta.Date\_End,**sysdate**())>0/\*remove already terminated leases\*/

**order** **BY**

ta.Date\_End,Tenant\_ID;

**Output screen shot of report:**

A screenshot of a computer

Description automatically generated

1. **Property Summary Report**

**Benefits & business uses (value) of report:**

The "Property Details Report" is designed to provide property managers and owners with a comprehensive overview of property-related data. It offers a snapshot of essential information about a property, including details about the property itself, the number of units, tenants, rent per property, and prospective tenants.

Written Code:

**SELECT**

P.Property\_ID,

P.S\_Property\_Name **AS** Property\_Name,

**CONCAT**(P.Country, ' ', P.State, ' ', P.City, ' ', P.Street, ' ', P.Zip) **AS** Address,

**COUNT**(**DISTINCT** U.Unit\_ID) **AS** No\_of\_Units,

**COUNT**(**DISTINCT** T.Tenant\_ID) **AS** No\_of\_Tenants,

NVL(**SUM**(CD.Amount), 0) **AS** Rent\_Per\_Property,

(**SELECT** **COUNT**(PT.Prospect\_ID) **FROM** PROSPECTIVE\_TENANT PT **WHERE** PT.Property\_ID = P.Property\_ID) **AS** Count\_of\_Prospective\_Tenants

**FROM** PROPERTY P

**LEFT** **JOIN** UNIT U **ON** P.Property\_ID = U.Property\_ID

**LEFT** **JOIN** UNIT\_ASSIGNMENT UA **ON** U.Unit\_ID = UA.Unit\_ID

**LEFT** **JOIN** TENANT T **ON** UA.Tenant\_ID = T.Tenant\_ID

**LEFT** **JOIN** CHARGE\_DETAILS CD **ON** T.Tenant\_ID = CD.Tenant\_ID

**GROUP** **BY** P.Property\_ID;

**Output screen shot of report:**

A screenshot of a computer

Description automatically generated

1. **Rent Details Report**

**Benefits & business uses (value) of report:**

The purpose of this report is provide a summary of the rent roll for property units and tenants, including information about due dates, rent amounts, and rent statuses. It helps property management or real estate professionals keep track of rent payments and tenant obligations.

The code creates a view named ‘RentReportBase’ as rent details are a sensitive data to handle.

**Written Code:**

**CREATE** **VIEW** RentReportBase **AS**

**SELECT**

UA.Unit\_ID,

T.Tenant\_ID,

**CONCAT**(P.S\_First\_Name, ' ', P.S\_Last\_Name) **AS** Tenant\_Name,

U.S\_Unit\_Name **AS** Unit\_Name,

CD.Amount **AS** Rent\_Amount,

CD.Date\_From **AS** Rent\_Start\_Date,

CD.Date\_To **AS** Rent\_End\_Date

**FROM** UNIT\_ASSIGNMENT UA

**JOIN** TENANT T **ON** UA.Tenant\_ID = T.Tenant\_ID

**JOIN** PERSON P **ON** T.Person\_ID = P.Person\_ID

**JOIN** UNIT U **ON** UA.Unit\_ID = U.Unit\_ID

**LEFT** **JOIN** CHARGE\_DETAILS CD **ON** T.Tenant\_ID = CD.Tenant\_ID

;

**SELECT**

Unit\_Name,

**MAX**(Tenant\_Name) **AS** Tenant\_Name,

**MIN**(Rent\_Start\_Date) **AS** Rent\_Start\_Date,

**MAX**(Rent\_End\_Date) **AS** Rent\_End\_Date,

**SUM**(Rent\_Amount) **AS** Total\_Rent,

**DATEDIFF**(**MAX**(Rent\_End\_Date), **MIN**(Rent\_Start\_Date)) **AS** Rent\_Period\_In\_Days,

**CASE**

**WHEN** **DATEDIFF**(**MAX**(Rent\_End\_Date), **CURRENT\_DATE**) < 0 **THEN** 'Expired'

**WHEN** **DATEDIFF**(**MAX**(Rent\_End\_Date), **CURRENT\_DATE**) = 0 **THEN** 'Due Today'

**ELSE** 'Due in ' || **CAST**(**DATEDIFF**(**MAX**(Rent\_End\_Date), **CURRENT\_DATE**) **AS** **CHAR**) || ' days'

**END** **AS** Rent\_Status

**FROM** RentReportBase

**GROUP** **BY** Unit\_Name

**ORDER** **BY** Rent\_Status; **Output screen shot of report:**

A screenshot of a computer

Description automatically generated

1. **Amendment Details**

**Benefits & business uses (value) of report:**

The "Amendment Details Report" is designed to help property managers and stakeholders gain insights into lease amendments and understand the average duration of these amendments based on different types. The report offers valuable information about the number of amendments of each type, as well as the average duration for each type.

**Written Code:**

**SELECT**

**AT**.Amendment\_Type,

**COUNT**(TA.Tenant\_Amendement\_ID) **AS** Amendment\_Count,

nvl((**SELECT** **AVG**(**DATEDIFF**(TA\_inner.Date\_End, TA\_inner.Date\_Start))

**FROM** TENANT\_AMENDMENT TA\_inner

**WHERE** TA\_inner.Amendment\_Type\_ID = **AT**.Amendment\_Type\_ID),0) **AS** Average\_Amendment\_Duration

**FROM** AMENDMENT\_TYPE **AT**

**LEFT** **JOIN** TENANT\_AMENDMENT TA **ON** **AT**.Amendment\_Type\_ID = TA.Amendment\_Type\_ID

**GROUP** **BY** **AT**.Amendment\_Type;

**Output screen shot of report:**

A screenshot of a computer

Description automatically generated

1. **Unit Occupancy Report**

**Benefits & business uses (value) of report:**

The "Occupancy Report" is designed to provide property managers and owners with real-time insights into the occupancy status of units within a property or rental portfolio. It categorizes units as either "Occupied" or "Vacant" and includes details such as the unit name, tenant name (for occupied units), and the number of days until a vacant unit becomes available.

**Written Code:**

**SELECT**

'Occupied' **AS** Status,

U.S\_Unit\_Name **AS** Unit\_Name,

**CONCAT**(P.S\_First\_Name, ' ', P.S\_Last\_Name) **AS** Tenant\_Name,

nvl(**DATEDIFF**(UA.Date\_To ,**sysdate**()),0) **AS** Days\_Vacant

**FROM** UNIT U

**JOIN** UNIT\_ASSIGNMENT UA **ON** U.Unit\_ID = UA.Unit\_ID

**JOIN** TENANT T **ON** UA.Tenant\_ID = T.Tenant\_ID

**JOIN** PERSON P **ON** T.Person\_ID = P.Person\_ID

**WHERE** U.status=1 **and** UA.Date\_To >**SYSDATE**() -- IS NULL

**UNION** **ALL**

**SELECT**

'Vacant' **AS** Status,

U.S\_Unit\_Name **AS** Unit\_Name,

'-' **AS** Tenant\_Name,

**DATEDIFF**(UA.Date\_From, **CURRENT\_DATE**) **AS** Days\_Until\_Vacant

**FROM** UNIT U

**JOIN** UNIT\_ASSIGNMENT UA **ON** U.Unit\_ID = UA.Unit\_ID

**WHERE** UA.Date\_To <**SYSDATE**() **or** U.status=0 ;

**Output screen shot of report:**

**A screenshot of a computer

Description automatically generated**

**Learning Outcomes:**

Developing five SQL reports to extract insights from a dataset demonstrates SQL's versatility. This project utilizes SQL features like joins, aggregate functions, single row functions, CASE statements, set operators, and subqueries to address business questions. It underlines SQL's role in data analysis, emphasizing data integration, creative problem-solving, and query optimization. The use of set operations is showcased for advanced data manipulation. In summary, the project provides hands-on experience in leveraging SQL to transform raw data into meaningful insights, reflecting the breadth of SQL's capabilities in data analysis.