NW REALITE LTD

Data Analyst Practical Assessment – Candidate Instructions

Context

Welcome to the NW Realite Data Analyst Practical Test.
This exercise evaluates your ability to clean, analyze, and interpret real estate performance data.
You'll be working offline using the sample dataset provided.

Tools

- Microsoft Excel / Power Query
- Power BI Desktop
- MySQL Workbench or Local Database Viewer
- Python (optional)

Internet access is disabled, so please use only offline resources.

Duration

Total time: 3 hours

Task 1: Data Cleaning & Preparation – 45 minutes
Task 2: Exploratory Analysis & Visualization – 60 minutes
Task 3: SQL Query Writing – 45 minutes
Task 4: Insight Communication – 30 minutes
Bonus (Optional): Predictive Analysis (Python) – 30 minutes

Instructions

Task 1: Data Cleaning & Preparation

- Open the dataset provided.
- Identify and correct inconsistencies (negative rents, invalid dates, NULLs).
- Add new columns:
  - lease_duration_months
  - valid_lease (1 = valid, 0 = invalid)
  - annual_rent = rent_per_month × 12

- Standardize all location names to Proper Case.
- Save your cleaned file as Cleaned_Data_YourName.xlsx.

Task 2: Exploratory Analysis & Visualization

- Create a Power BI or Excel dashboard showing:
  1. Total rent billed vs arrears by location
  2. Occupancy rate per property
  3. Top 3 properties by arrears
  4. Average monthly rent by property
- Add short titles and clear labels.
- Save your dashboard as Dashboard_YourName.pbix

Task 3: SQL Query Writing

Write SQL queries (in MySQL Workbench or a text editor) for:
1. Properties with occupancy below 80%
2. Total arrears per location
3. Top 3 properties by collection efficiency
4. Invalid/dirty leases (negative rent or invalid dates)
5. Tenants with 2 or more units

Save as SQL_Queries_YourName.sql.

Task 4: Insight Communication

Write a short 150–200 word memo addressed to the Head of Property Management, summarizing:
- Overall property performance
- Key arrears or occupancy issues
- 2–3 actionable recommendations

Save as Insights_YourName.docx.

Bonus (Optional)

If time allows, use Python (offline) to:
- Build a simple regression predicting next month's rent collection efficiency.
- Save your code as Prediction_YourName.ipynb.

Submission

Before leaving:
1. Ensure all files are saved to the folder labeled “Candidate_Submissions”.
2. Confirm your name is on each file.
3. Notify the invigilator when done.

Grading Summary

Data Cleaning – 20%: Accuracy, completeness, handling of dirty data
SQL Queries – 25%: Logical joins, aggregations, correct results
Visualization – 30%: Clarity, insight, presentation
Insight Memo – 20%: Business understanding, writing quality
Bonus – 5%: Analytical curiosity, Python usage