Part 1 – Python or C# Console App(60 Minutes)

Below is what is expected.

```
Hi there. I'm Andile, your home loan digital assistant :D ...

Enter your gross salary: R50000
Now enter your credit score(0-1200): 670
What is the purchase price of the property?: R1000000

Thank you for your home loan application.
Loan Application Status: Granted
Maximum Instalment Amount: R15000.0
Percentage Home Loan Granted: 90%
Deposit Required: R100000.0
Monthly Instalment: R7850.0
Press any key to continue . . .
```

Outputs

1) Loan application status: Granted or Declined
2) What is the maximum home loan instalment that the bank can allow the customer to pay?
3) Percentage Home Loan granted by the bank?
4) How much deposit is required from the customer?
5) How much will the monthly instalment be if the application is granted?
6) If the buyer has an existing home loan, ask the buyer for the monthly instalment they are paying and factor it in determining if they qualify for purchase the new property.

Part 2 – SQL (55 Minutes)

Using the Home Loan table provided on SQL server, populate the 5 fields below based on and above-mentioned business rules.

1) Loan application status: Granted or Declined
2) What is the maximum home loan instalment that the bank can allow the customer to pay?
3) Percentage Home Loan granted by the bank?
4) How much deposit is required from the customer?
5) How much will the monthly instalment be if the application is granted?

Part 3 – Analysis (30 minutes)

1) List the names of the top 3 buyers who were granted the biggest 100% home loans.
2) How many customers qualify for a home loan but require 20% deposit?
3) List the name of the top 3 customers who were granted the biggest 100% home loans, in descending order by listed price of the property.
4) List the customers that could qualify for a home loan home if they buy a property that is between 1-20% cheaper.

Data Analyst & Developer - Technical Assessment

You have been employed as by a Home Loan originating company, Originex, develop a prototype app that will determine if a potential buyer qualifies for a home loan. This prototype app only needs to be a console app to test the functionality before senior management can decide whether the full app will be on .NET Core or on Python. There are certain rules that have been provided by the business, regarding how each potential buyer's application is processed.

For Part 1, develop a home loan app that will receive inputs from the user and determine the user's affordability for a given purchase price. All inputs need to be factored to determine the outcome.

For Part 2, use the dataset provided in SQL and provide the outputs in a separate table and analyse your data results to answer the last 2 questions based on the results.

Inputs:

Gross Salary, Credit Score, Purchase Price and existing home loan instalment (if it exists)

Business Rules

1. The bank will only grant the potential buyer with a home loan where the instalment of a home loan is not more than 30% of the buyer's monthly gross salary and they have a healthy credit score.
2. The bank does not always grant the potential buyer a 100% home loan. The following credit scores are used to determine the home loan percentage the bank may give, if at all.

1. 800 and above = 100% loan.	5. 600-649 = 85% loan.
2. 750-799 = 97.5% loan.	6. 550-599 = 80% loan.
3. 700-749 = 95% loan.	7. 549 and below = rejected.
4. 650-699 = 90% loan.	

3. All deposits are determined by the percentage of the loan granted. If the home loan granted for a R1 000 000 property is 90%, which is R900 000; then the customer will be required to pay the 10% shortfall of R100 000 as a deposit. The deposit is only required if the qualifying loan amount loan is less than 100%
4. Monthly instalment is calculated as ((Purchase Price-Deposit required) x 0.00785). i.e based on example provided on business rule #2. Monthly instalment = ((R1 000 000 – R100 000) x 0.00785)
5. The Existing Home Loans table contains customers with existing home loans and should be taken into consideration when determining the customer's affordability.