Jacaranda Maternity is unique in the Kenyan market as a specialized healthcare service provider. Thanks to our focus on maternal journeys, we con mobilize all of our resources and focus on providing safe, high-quality care to women and their babies.

We aim to use data to understand how we can improve on our service provision. The data we have provided you is sample data--as in we have removed any sensitive information and changed the information in a way to make it totally unique on its own. The data however can be analyzed as normal for this assignment from this dataset and made it appropriate for this exercise.

Note that we believe good analyst does the following:

- Answers questions by reporting relevant descriptive and or inferential statistics. In this assessment, descriptive statistics are much more relevant.
- Formats results in clean tablular formats that can be put into professional style presentations
- Integrates clear and easy to understand graphical representations of key results.
- Provides simple, easy to understand narrative.
- Provides clear explanation to the process of getting key results---what formulae?
- Provides their workbook/sheets that show how they wrote their formulae etc so that it can be checked for mistakes.

This data *(not actual data – randomly generated for the assessment)* includes

1)First time ANC

　　This tab provides patient codes, date of the patient's first visit, the type of visit, and the estimated delivery date for the patient, type of payment (cash vs. private insurance program)

2) **Lab Tests**

　　These are laboratory tests with patient codes, test date, and type of test, type of payment (cash vs. private insurance program)

2)Ultrasound

　　　This is radiology/ultrasound services that have been performed, with patient codes, date of the service, type of ultrasound, type of payment (cash vs. private insurance program)

Assignment A

- **Part 1: Ultrasound Analysis**
    - **Use summary statistics, 2-4 data visualization, and any additional analytical reporting formats to answer the following questions:**
    - A normal pregnancy journey lasts roughly 40 weeks. During that time a safe journey involves 2 ultrasounds, and 3 perhaps even 4 is even safer for some women.
        - Please make a tab that has patient code + the date of their New ANC + any other ultrasound data that you find meaningful.
        - Based on your analysis, how are we doing in terms of women reaching at least 2 ultrasounds? What are the 2-4 different ways to understand whether the women achieve this goal?
        - What other factors seem to change or influence the number of ultrasounds that a woman gets? For example, do cash payers behave differently than others?
        - Do some branches do better than others? In what ways?
        - Note that the most important types of scans are ones that have the name 'obstetric' or "OB" in them. Also any scan that references 'growth" or "dating" is quite important as well.

    - What further analysis can come from this data that may help to advise branch managers on areas to improve? How do branches compare to each other? What additional data would be helpful to know that is not available?
- **Part 2: Lab tests**
    - Now, do a similar analysis as before for the lab tests—first integrating the New ANC date with lab tests for the patient. Remember that as with ultrasounds, there is often more than 1 instance.
    - How frequently are our patients getting lab tests? How many? Are there many different visits they make to us for the tests? What tests are most frequent?
    - Tests that include the acronym "OGTT" are particularly important for a woman to make sure she is on a safe pregnancy journey---what % of our patients are getting those types of tests?
    - Tests that include the words "ANC Profile" is an important test—do most women get it or not? When do they get it?
    - What are the top ten tests that people get?
    - What are the highest revenue-earning tests?
    - Do branches appear to perform similarly?
    - Do cash payers perform similarly to others?

- **Part 3:** In this part it is up to you to highlight what we should consider in terms of why your analysis shows your professional abilities. You can also discuss other analysis that you have completed that is somehow related to the assignment above---so that you can explain how you took a real data set and made it into good insights and action.