**Business Analyst home assignment**

The following questions all refer to an energy based freemium (IAP) game. In this game, the player progresses in levels by consuming energy he receives on an hourly basis. Players can choose to deposit real money in order to gain more energy.

In your answers, please elaborate on all your considerations, ideas and assumptions. When needed – please attach all calculations and analysis in the attached Excel file – with a new separate sheet for each answer. Please summarize your answers in a Power Point presentation to be presented, with clear references to the Excel sheets.

Good luck!

1. In the **sheet labeled “Question 1”** there are two tables:
   * **User\_Data** – a table that contains the most updated details on different users that installed the game
   * **Daily\_Data** – a table that contains an aggregation summary of users for each date they were active in the game

Prepare a summery analysis for management regarding the current state of the game. Try to focus on meaningful KPIs and trends, and if possible – try to explain them using the data in a clear and convincing manner.

1. In the **sheet labeled “Question 2”** are aggregated data collected on users participating in a pricing A/B test. In this test, two different “Out of Energy” offers were presented to players once their energy balance was depleted:
   * **Control** (80% of players) – got the offer OutOfEnergy\_2 which gives 20 energy for $2
   * **Test** (20% of players) – got the offer OutOfEnergy\_5 which gives 50 energy for $5
2. Which one of these variations would you suggest adopting? Explain what KPI’s led you to this decision and elaborate the relevant calculations.
3. What is the predicted effect of implementing your recommendation?
4. Do you have any other recommendations and important conclusions to draw from this test?
5. The live-ops manager wants to create a 1-day tournament event in the game. In the tournament, every 100 players will compete among themselves for rewards that will be given by their final position in the leaderboard. Players will collect tournament points by completing quests.
   1. Using the tables provided in the **sheet labeled “Question 3”,** what parameters and conditions would you use to create a segmentation? Explain why you chose them and suggest a way to check if they are indeed good candidates for this task.
   2. Write a simple and efficient SQL query that will output a list of the different segments, of the form (values for example only):

|  |  |
| --- | --- |
| **user\_id (int)** | **segment (Str)** |
| 1213 | S1 |
| 5449 | S2 |

(Note that there can be many leaderboards for one segment. Matching players from the same segment into one leaderboard is automatically done by the game server)