**Case Studies & Guesstimates for Healthcare Industries**

The healthcare industry is a cornerstone of society, providing essential services that ensure the well-being and health of populations worldwide. In today's era, its importance has been underscored by the rapid advancements in medical technology and the increasing demand for quality healthcare services. The industry faces numerous challenges, including rising costs, ageing populations, and the need for more efficient patient care.

Data scientists play a pivotal role in addressing these challenges, leveraging their expertise to analyse vast amounts of healthcare data. They help in predicting disease outbreaks, personalising treatment plans, and improving patient outcomes through predictive analytics. Additionally, data scientists optimise hospital operations, enhance diagnostic accuracy with machine learning algorithms, and contribute to the development of new medical treatments and drugs. By harnessing the power of data, they drive innovation, improve efficiency, and ensure the delivery of high-quality healthcare services, making a significant impact on the industry's growth and sustainability.

**PART - I**

**Product Dissection**

**1. Platform Selection**

**Question:** Choose a leading platform from a domain related to the **e-commerce** industry. Justify your selection by discussing the platform's popularity, impact, and relevance in its industry.

**2. Core Features and Functionalities**

**Question:** Research and list the core features and functionalities of the selected platform. Describe how these features contribute to the platform’s success and user engagement.

### **3. Real World Problems**

**Question:** Identify the real-world problems that the platform aims to solve. Discuss how the platform addresses these problems through its features and functionalities.

**Database Management & Schema Design**

### **4. Schema Design**

**Question:** Based on the features and functionalities you have identified, design a schema that reflects the platform’s data structure. Define the key entities, attributes, and relationships that underpin these features.

### **5. ER Diagram Creation**

**Question:** Utilise tools like the Miro platform or similar applications to create an illustrative Entity-Relationship (ER) diagram. This diagram should vividly depict the entities, attributes, and relationships present within your schema design.

**Revenue and Profit Growth Strategies**

**Question:** After completing the product dissection and schema design steps for the chosen platform, conduct a comprehensive case study on the above chosen industry. Your goal is to identify and propose strategies to increase the **profit of the industry by at least 25%**.

Create a detailed report summarising your findings and proposals. Include data-driven justifications for each proposed strategy and present your case study using visual aids such as charts, graphs, and diagrams to illustrate your points. Outline the steps, resources, and timeline required to achieve the desired revenue and profit growth.

**PART - II**

**Guesstimates**

**Question 1:** Estimate the potential annual cost savings for a hospital if it reduces its readmission rate by 10%.

**Question 2:** Estimate the potential annual revenue generated by a hospital if 20% of its consultations are shifted to telemedicine.

**Question 3:** Estimate the potential annual market size (in dollars) for a new medical device designed for diabetes management in the United States.

**Question 4:** Estimate the potential additional annual revenue for a clinic from implementing preventive care programs.

**Question 5:** Estimate the potential annual cost savings for a hospital from optimizing its supply chain management.