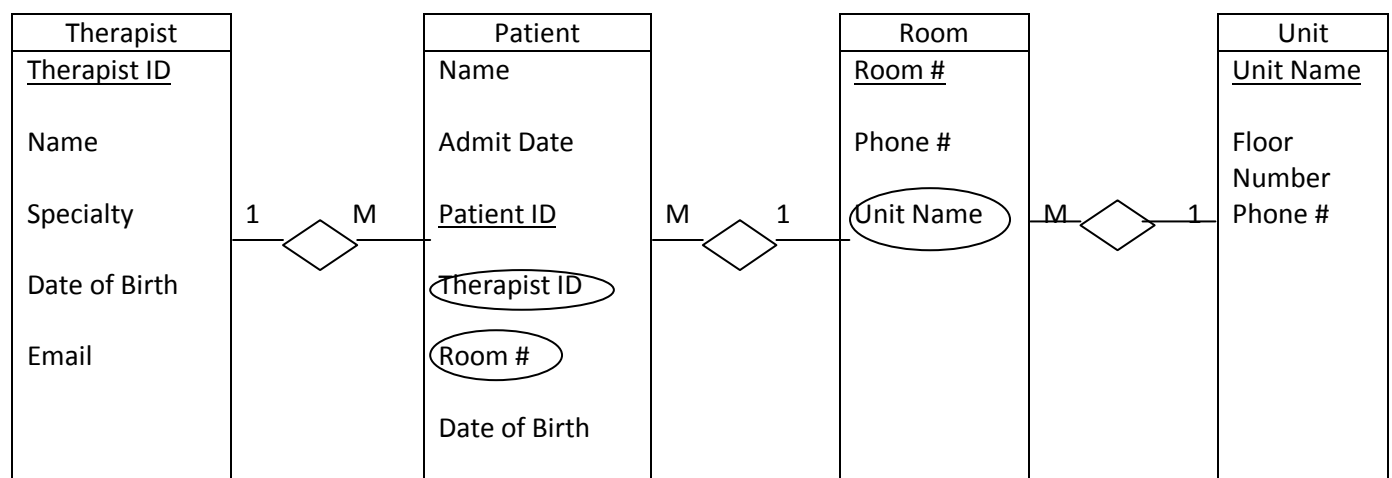


The data model of a health centre is shown below. In this centre, a therapist admits a patient who requires a treatment. Depending on their health problems, patients are given a room in one of the many units (e.g., chiropractic, physiotherapy, acupuncture, etc.). Each unit is located on a different floor and has many rooms. All rooms are private, that is, there is only one patient per room.

Complete the following requirements.

- Underline the Primary Keys in the data model below
- Circle the Foreign Keys in the data model below
- Create (draw) the link between the tables and show their cardinality



Question 1

- Twitter, Facebook and MySpace. We should monitor for organized attacks that can damage our brands in these social networks.
- This is when something spreads online from its origin to every corner in the world.

Question 2

- Two project management scheduling tools are PERT and Gantt charts. PERT stands for Program Evaluation and Review Technique. This technique creates allows to derive an overall project time estimate and identifies critical path. **Gantt charts** are grid charts that show project activities as rows and time units (such as weeks and months) as columns. The duration of each activity is shown as a horizontal bar in each row to clearly show the relationship of activities on the project.

- b) CASE tools are computer-aided software engineering tools that automate many of the tasks required in a systems development effort. Benefits of CASE tools are:
- Increased productivity: There is automation of tedious systems development activities, which saves time.
 - Improved quality: CASE tools can reduce or eliminate errors in specification and design.
 - Improved documentation: CASE tools help keep documentation current, reducing misunderstandings.
 - Reduced system maintenance costs: CASE tools reduce the cost of keeping documentation current.
- c). Open-source software is a form of freeware available to anyone in a form that can be freely modified. Open-source software development is a collaborative process with developers around the world using the Internet to keep close contact to download and submit new updates to the software.
- d. Two advantages of open-source software are:
- The initial cost to purchase the code is zero.
 - Changes to the code can be made in-house or by contractors to suit the specific needs of the business. One disadvantage of open-source software is that there is no guaranteed support by the software developer if the software fails to perform properly.

Question 3

Established in 1976 in Cupertino, California, Apple Inc. designs and markets computer hardware and software. It operates 357 retail stores in 10 countries and online stores. It is the largest publicly traded company in the world by market capitalization and the largest technology company in the world by revenue and profit. Fortune magazine named Apple the most admired company in the world in 2008, 2009, and 2010.

A cornerstone of Apple's business model revolves around products that are simple and elegant, that work together without any major problems. The way that Apple accomplishes this goal is with a combination of talented designers and total control over the product. Every Apple product ships only with apple software. Apple, like other IT industry hardware giants, such as Cisco Systems and Hewlett-Packard, were able to separate design and production using computer-

based models and modular components. Apple's computers are designed in California, but manufactured in Shenzhen, China, by Taiwanese industrial giants Foxconn and Inventec.

When a consumer chooses to purchase a computer on the online Apple Store, he starts by creating an account on the Apple Store website. He is then presented with web pages in the language of his choice. He can choose and customize products, even get a product engraved. Once the order is completed, he can pay using any major credit card. For repeat customers, a one-click option is also available to expedite the process. For a first-time customer the whole process can be completed in a matter of a few minutes, giving customers the ability to move from thought to action nearly instantly. After the order is validated, the product is shipped within 2-3 days from the nearest storage depot to the customer. Storage depots exist in all regions of the globe. They are managed by an international third party logistics and shipping company, FedEx. If the product is not available at the storage depot or if a highly specialized (like a server or some of the high-end models) or a customized product is ordered (for example with engraving), an electronic order is sent to the third-party factory. A custom product is then prepared and then shipped. In such cases, Apple commits to have the product delivered to the customer in no more than 3-4 weeks. The customer has the ability to track the status of his order at all times. Once the product is received, the customer may also use the Apple website for after-sales support and warranty issues. When software is purchased the process is similar, but the product is shipped electronically in a matter of a few minutes after the order is validated.

Questions:

1- What e-commerce advantage is illustrated in this case?

Answer: frictionless transactions—the ability of the consumer to move from thought to action (i.e., buying to instantly fulfilling the product)

2- What business model is implemented by Apple ?

Answer: Manufacturer Direct, Make and sell products directly to consumer

3a- When a customer orders a product from the on-line Apple store, what type of e-commerce is this?

Answer: B2C

3b- When Apple sends an electronic orders to Foxcom for a product to be custom-built and shipped to a customer, what type of e-commerce is this?

Answer: B2B

4- What primary value chain activities are outsourced by Apple ? (name all of them and Identify if they are primary or support activities)

Answer: inbound logistics, operations (production), outbound logistics

5- What support value chain activities are outsourced by Apple ?

Answer: None

6 a- Name 2 benefits for customers of the business model presented in this case ?

Answers: see table below

6 b- Name 2 limitations for customers of the business model presented in this case ?

Answers: see table below

6b Name 2 benefits for Apple of the business model presented in this case ?

Answers: see table below

6 a- Name 2 limitations for Apple of the business model presented in this case ?

Answers: see table below

	Benefits	Limitations
Consumer	<ul style="list-style-type: none"> • Lower prices • Shopping 24/7 • Greater searchability of products worldwide • Shorter delivery times for digital products • More sharing of information with other consumers • Improved customer service 	<ul style="list-style-type: none"> • Delay in receiving physical products, plus shipping charges • Slow download speeds in areas without high-speed Internet • Security and privacy concerns, especially with the rise of <i>phishing</i> (a scam intended to gain private information for fraudulent use) • Inability to touch, feel, smell, try out, or try on products prior to purchasing • Unavailability of micropayments for purchases of small-cost products
Business	<ul style="list-style-type: none"> • Expansion of marketplace to global proportions • Cheaper electronic transactions • Greater customer loyalty through customized web pages and one-to-one marketing • Expansion of niche marketing opportunities • Direct communications with customers through website, often resulting in better customer service 	<ul style="list-style-type: none"> • Increased competition due to global marketplace • Ease of comparison between competing products drives prices down • Customers want specific choices and will not accept substitutes • Customers control flow of information instead of companies