Assignment 1
DB Design – ER Modelling

Learning outcome:
Create ER model that captures major entities, relationships among entities, and attributes of entities required for a particular system.

Student Learning Time (SLT) is 12 hours
(C5-CSCS1 - 30%)

Dateline: 20 April 2025 (upload to PutraBLAST).

** Copy or other forms of cheating are forbidden. The standard penalty for the first offense is to award 0 to all parties concerned.

Design the databases using ER model that captures major entities, attributes and relationships among entities for the given requirements. Specify the primary keys, cardinalities and state any assumptions you make. Draw the Entity-Relationship Diagrams (ERD) using ERDPlus. (If you choose to draw the ERD using UML class diagram, make sure the cardinalities are correct, since there are different from the traditional ER model.)

Question 1

Neelofa opens a boutique in IOI City Mall. Neelofa Boutique accepts orders and sells ready-made clothes to customers at a reasonable price. Customers can make a booking online or by calling. Booking information such as id, date, time and details of cloth will be recorded. Customer information such as ID, name, address, and telephone number will be recorded. Customers can book a wide range of clothing at a time and can book a few pieces of the same cloth. Cloth information such as ID, price, and description also need to be stored.

Question 2

EMI Music Company has chosen to hire you as a database designer to store information about musicians who produce their albums under the EMI label. Based on the information given by the company, each musician that records their album at *EMI* has a serial number (SSN), a name, an address, and a phone number. Each album recorded has an album identifier, a title, a copyright date and a format (e.g., CD or MC). Each song recorded has a title and an author. Each album has a number of songs on it, but no song may appear on more than one album. One or more musicians perform each song, and a musician may perform a number of songs. Each album has exactly one

musician who acts as its producer. A musician may produce several albums. Each musician may play several instruments, and several musicians may play a given instrument. Each instrument has a unique identification number, a name (e.g., guitar, synthesizer, flute) and a musical key (e.g., C, B-flat, E-flat).

Question 3

A HKL database store information about patients in a hospital. On arrival, each patient's personal details (name, address, and telephone number) are recorded and they are given an admission number. Patients are then assigned to a particular ward (Accident and Emergency, Cardiology, Oncology, etc.) added with the date, time and treatment record. In each ward there are a number of doctors and nurses. A patient will be treated by one doctor and several nurses over the course of their stay, and each doctor and nurse may be involved with several patients at any given time.