INHA UNIVERSITY

DATABASE MIDTERM ASSIGNMENT

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Designing and Implementing script of a database for ITS company

Goals :

1. To gain experience implementing scripts for ITS database.
2. To gain experience designing Entity-Relationship (E-R) diagram using ERWIN data modeller.

Task description:

Incheon Transport Services (ITS), a private company, provides transportation services to various events. Recently, it has been sub-contracted by the Incheon City Government to transport officials during the Asian Games in 2022. The company requires a modern database system for efficient management of its services. ITS has hired you as a database professional to design and develop a database that can meet ITS's needs as specified requirements. ITS owns a fleet of vehicles. Table 1. shows a small sample of ITS's vehicle assets.

Table 1 Primarily data sheet for ITS company transport vehicle assets

Vehicle Id	Registration Id	Manufacturer	Model	Color	Current Odometer	Passanger Capacity
V1000	2001 ABC	Volvo	XC90 SE	Silver	4350	4
V1001	2006 AFD	Kia	K7	Black	2195	4
V1002	2021 AHR	Tesla	2020 F	White	509	4
V1003	2020 DXF	Ford	Transit	Silver	974	2

ITS databse requirements:

- Vehicles are maintained or repaired regularly. While the vehicle's maintenance or repair started, the ITS database stores the action type as Maintenance (M) or Repair (R), odometer, the final cost, a brief description of the action and the date.
- ITS stores a list of countries participating in the Games and the most frequently spoken languages. A country can have various spoken languages which are identified by ISO3166-1 two-character codes. For instance, ISO3166-1 two-character codes for the Republic of Korea and English language are KR and EN, respectively. You can find the current ISO 3166 country codes list by clicking here.
- Games officials from all participating countries use ITS's services. ITS records the name of the country that an official is representing, the official's Incheon 8 characters based City ID, his/her name, role at the Incheon Games (e. g., coach, judge and physician), and the official's preferred language.
- An Incheon Game official may use ITS's services various times during a single day; the condition that "a suitable vehicle is available when they wish to travel" is the only limiting factor.

- The ITS database system stores drivers' information, including their name, license number (18 characters), and clearance level. An ITS driver's security clearance level can be digits from 1 to 4.
- If an ITS driver has already passed a First Aid Training Licence (FATL), the ITS database stores the FATL level (1 to 10) and the FATL qualification date.
- If an ITS driver has already passed a security training licence for the VIP transport (STLVT), the ITS database stores the STLVT level (1 to 5), the STLVT qualification date and the certifying authority (e.g., a local Police Station, or foreign police station).
- It is not mandatory for an ITS driver to have a special training licence in one field of STLVT, FATL or both.
- ITS driver booking service matches the language of an Incheon game official with the language of the ITS driver.
- ITS driver booking service matches the assignment of a suitable driver with a suitable vehicle based on the Incheon game official's request.
- ITS driver database system stores the pickup and drops off location name incuding location's address such as street number and city, and location types such as Hotel, Airport, and Aquatic Center.
- ITS driver database system stores the booking reference number, the actual trip start date-and-time, end date-and-time, start odometer value and end odometer value when a trip is completed.
- To assist vehicle assignment, ITS requires that the new system indicate whether a vehicle is currently available. An ITS vehicle is flagged as unavailable if the vehicle is out-on-a-trip or out-of-service.

Submission

Submission is made by uploading your work on the I-Class system. You must upload a zip archive; This should contain the following items,

- An ERWIN data modeler file
- A script for creating tables
- A script for inserting records into tables
- A report describes scripts and ERD models.
- GitHub Link for your Co-lab related file.
- Use python and SQL to create tables, insert data and show data for each table in your Co-lab related file.

Notice:

The assignment submission deadline (I-Class) is 2022/10/21 at Midnight (20 POINTS).
No delayed submission is accepted and evaluated.
The midterm is an individual Assignment for each student.