

In Class Task B7IS121 Database Systems 2021

Task outline

- Read the brief given
- Follow the instructions given underneath the brief
- Upload completed Diagram into Moodle by due date.

In Class Task B7IS121 Database Systems 2021

The Brief

A bus company wants to implement a database to streamline its operations. This should include information about the buses, the schedule, the routes and the stops. Each bus will have a unique registration number, make, model and the schedule they were following during a specific time. Each schedule is handled by a bus, over the day a bus can handle multiple schedules. They want to record the scheduled arrival and departure times. A schedule must be under a specific route, and a route itself can have many schedules. Fares are charged based on the route taken. Along each route there are many bus stops, these can be shared by many routes also. A stop has a specific name and may be a terminus. The company would also like to maintain information on drivers which shall include the license number, name, nationality, date of birth, and gender of the driver. Normally each driver only drives one bus at a time. A driver may occasionally be reassigned to a different bus to cover leave requirements or in an emergency.

Develop an ERD, to 3NF, based on the above brief in the time allowed (2 hours)

The ERD must include the below:

- a) Correct Fully Normalised Entities
- b) Correct Primary key(s)
- c) Correct Foreign Keys
- d) Relevant Attributes
- e) Correct relationships between entities using Crows-Feet notation

In Class Task B7IS121 Database Systems 2021

| ASSESSMENT CRITERIA Criteria/Mark | >40 | 40 - 49 | 50 - 59 | 60 – 69 | 70+ |
|---|---|--|---|--|---|
| Database Design ERD 100% | | | | | |
| Correct & Fully Normalised Entities 25% | Three or less Entities Identified. | At least 5 Entities, partially normalised. | At least 5 Entities. Fully Normalised. | At least 5 Entities. Plus at least 1 bridge entity normalised. | More than 6 entities. With at least 1 bridge entity. ALL entities fully normalised |
| Relevant Attributes 20% | Minimal (1-2) attributes or no attributes | Minimal (1-2) attributes in non-bridge entities. Mostly or only PK and FKs with no additional attributes in bridge entities. | Most, but not all, Entities have relevant attributes. Mostly or only PK and FKs with no additional attributes in bridge entities. | All Entities have relevant attributes. Mostly or only PK and FKs with no additional attributes in bridge entities. | All, Entities have relevant attributes including any bridge entities. |
| Correct relationships between entities using Crows-Foot notation 25% | No correct relationships or M:M relationships shown | 1-2 correct relationships. NO M:M relationships show | 1-3 correct relationships. NO M:M relationships show | More than 3 correct relationships. NO M:M relationships show | ALL are correct. |
| Correct Primary key(s) 15% | No PK shown or unsuitable attribute chosen (not unique) | Some correct PKs (1-2), some missing or incorrect. | Some correct PKs (1-3), some missing or incorrect. | Some correct PKs (more than 3), some missing or incorrect. | ALL are correct. |
| Correct Foreign Keys 15% | No FKs shown or random attributes marked as FK | Some correct FKs (1-2), some missing or incorrect. | Some correct FKs (1-3), some missing or incorrect. | Some correct FKs (more than 3), some missing or incorrect. | ALL are correct. |