NF1

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sells | lect\_id(PK and FK) | Lect\_name | Prof\_id(PK and FK) | Prof\_name | Note\_id | Price | Quantity |
|  | 24 | DB | 47 | Miller | 5 | 32 | 12 |
| 24 | DB | 272 | Adams | 1 | 35 | 15 |
| 24 | DB | 251 | Meyer | 5 | 32 | 12 |
| 25 | Java | 47 | Miller | 3 | 22 | 19 |

1. **Determine the (full) functional dependencies! Remember that FDs are determined by the model, not just by the actual data:**

Lect\_id -> lect\_name

Prof\_id -> prof\_name

Note\_id -> price

Note\_id -> quantity

Lect\_id -> Note\_id

Prof\_id -> Note\_id

1. **Define a primary key for the table!**

Primary keys are Lect\_id and Prof\_id.

1. **Transform the schema to 2NF! The report shall contain the table(s) with content. Do not forget to indicate PKs and FKs!**

**NF2** is:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Note\_info | Lect\_id(PK and FK) | Prod\_id(PK and FK) | Note\_id | Price | Quantity |
|  | 24 | 47 | 5 | 32 | 12 |
| 24 | 272 | 1 | 35 | 15 |
| 24 | 251 | 5 | 32 | 12 |
| 25 | 47 | 3 | 22 | 19 |

|  |  |  |
| --- | --- | --- |
| Lect | lect\_id(PK and FK) | Lect\_name |
|  | 24 | DB |
| 24 | DB |
| 24 | DB |
| 25 | Java |

|  |  |  |
| --- | --- | --- |
| Prof | Prof\_id(PK and FK) | Prof\_name |
|  | 47 | Miller |
| 272 | Adams |
| 251 | Meyer |
| 47 | Miller |

1. **Transform the schema to 3NF! The report shall contain the table(s) with content. Do not forget to indicate PKs and FKs!**

**NF3 is:**

|  |  |  |  |
| --- | --- | --- | --- |
| Sells | lect\_id | Prof\_id | Note\_ID |
|  | 24 | 47 | 47 |
| 24 | 272 | 272 |
| 24 | 251 | 251 |
| 25 | 47 | 47 |

|  |  |  |
| --- | --- | --- |
| Lect | lect\_id | Lect\_name |
|  | 24 | DB |
| 24 | DB |
| 24 | DB |
| 25 | Java |

|  |  |  |
| --- | --- | --- |
| Prof | Prof\_id | Prof\_name |
|  | 47 | Miller |
| 272 | Adams |
| 251 | Meyer |
| 47 | Miller |

|  |  |  |  |
| --- | --- | --- | --- |
| note | Note\_id | Price | Quantity |
|  | 47 | Miller | 12 |
| 272 | Adams | 15 |
| 251 | Meyer | 12 |
| 47 | Miller | 19 |

1. **Draw an ER diagram of the 3NF schema obtained in (D)! Use a drawing tool like Visio or Dia.**

