**Lab 1: Functional Dependencies**

Complete the following exercises off-platform. This is ungraded and for your own learning. Write down your answers ....

**Relation 1**

Given the relation with sample data below, find all possible functional dependencies.

**GradeBook**

| **ID** | **Name** | **Major** | **Quiz1** | **Quiz2** | **Quiz3** | **Quiz4** | **Total** | **Grade** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 001 | Harry | Magic | 90 | 90 | 80 | 100 | 360 | A- |
| 002 | Hermione | Magic | 100 | 100 | 100 | 100 | 400 | A |
| 007 | Ron | Magic | 80 | 100 | 70 | 100 | 350 | B+ |
| 301 | Dobby | Service | 95 | 95 | 95 | 95 | 380 | A |
| 302 | Severus | Education | 90 | 90 | 99 | 100 | 379 | A |
| 399 | Albus | Management | 100 | 100 | 99 | 100 | 399 | A |

**Answer**:

* FD1: ID 🡪 Name, Major, Quiz1, Quiz2, Quiz3, Quiz4, Total, Grade
* FD2: Total 🡪 Quiz1, Quiz2, Quiz3, Quiz4
* FD3: Grade 🡪 Total

**Relation 2**

Given the relation with sample data below, find all possible functional dependencies.

**ProductDetails**

| **SKU** | **Name** | **VendorID** | **Price** | **Date** | **Quantity** | **Location** | **Description** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| KB320 | MouseMat | V1230 | 13.32 | 01/01/2019 | 3000 | A3 | Discontinued |
| YZ783 | MouseMat | V3002 | 10.00 | 03/01/2019 | 1000 | A3 | Discontinued |
| IU990 | Mouse | V3333 | 19.00 | 12/01/2019 | 700 | A1 |  |
| IU370 | Mouse | V3333 | 15.00 | 01/01/2020 | 500 | A1 |  |
| YZ783 | MouseMat | V3012 | 9.90 | 05/01/2020 | 1000 | A3 |  |
| YZ783 | MouseMat | V3012 | 8.90 | 05/01/2021 | 1000 | A3 |  |

**Answer**:

FD1: SKU 🡪 Name

FD2: SKU, VendorID, Date 🡪 Price, Quantity, Location, Description