1. Employee Information

Unnormalized Form

EmployeeID	EmployeeName	Department	ManagerID	Salary	HireDate
1	John Smith	HR	101	50000	2022-01-15
2	Alice Brown	IT	102	60000	2022-02-20
3	Mark Johnson	Sales	101	55000	2022-03-10

1NF

Already in 1NF.

2NF

Employee Information:

EmployeeID	EmployeeName	Salary	HireDate
1	John Smith	50000	2022-01-15
2	Alice Brown	60000	2022-02-20
3	Mark Johnson	55000	2022-03-10

Department Information:

DepartmentID	DepartmentName
1	HR
2	IT
3	Sales

Manager Information:

ManagerID	ManagerName
101	Kumar Menon
102	Shekhar Thampi

Employee Department Manager Mapping:

EmployeeID	DepartmentID	ManagerID
1	1	101
2	2	102
3	3	101

3NF

The above tables formed are 3NF.

2. Training Programs

Unnormalized form

Program ID	ProgramName	Trainer	Department	EmployeeID	EmployeeName	Date
1	Java Fundamentals	John Smith	IT	101	Alice Brown	2022-03-01
2	Project Management	Sarah White	HR	102	Bob Green	2022-03-10
3	Sales Techniques	Mark Johnson	Sales	103	Charlie Black	2022-03-20

1NF

Already in 1NF.

2NF

ProgramID	ProgramName	Trainer
1	Java Fundamentals	John Smith

2	Project Management	Sarah White
3	Sales Techniques	Mark Johnson

ProgramID	Department	EmployeeID	EmployeeName	Date
1	IT	101	Alice Brown	2022-03-01
2	HR	102	Bob Green	2022-03-10
3	Sales	103	Charlie Black	2022-03-20

3NF

Product Information:

ProgramID	ProgramName	Trainer
1	Java Fundamentals	John Smith
2	Project Management	Sarah White
3	Sales Techniques	Mark Johnson

Employee Information:

EmployeeID	EmployeeName
101	Alice Brown
102	Bob Green
103	Charlie Black

Program Employee Department Mapping:

ProgramID	DepartmentID	EmployeeID	Date
1	D1	101	2022-03-01
2	D2	102	2022-03-10
3	D3	103	2022-03-20

Department Information:

DepartmentID	DepartmentName
D1	HR

D2	IT
D3	Sales

3. Customer orders

Unnormalised form

Order ID	CustomerName	ProductID	ProductName	Qty	Unit Price	Total Amount	Order Date
1	John Doe	101	Laptop	2	800	1600	2022-01-15
2	Jane Smith	102	Smartphone	1	500	500	2022-02-20
3	John Doe	103	Printer	1	200	200	2022-03-10

1NF

Already in 1NF.

2NF

OrderID	CustomerName
1	John Doe
2	Jane Smith
3	John Doe

OrderID	ProductID	ProductName	Qty	UnitPrice	TotalAmount	OrderDate
1	101	Laptop	2	800	1600	2022-01-15
2	102	Smartphone	1	500	500	2022-02-20
3	103	Printer	1	200	200	2022-03-10

3NF

Customer Information:

CustomerID	CustomerName
c1	John Doe
c2	Jane Smith
c3	John Doe

Product Information:

ProductID	ProductName	UnitPrice
101	Laptop	800
102	Smartphone	500
103	Printer	200

Order Infromation:

OrderID	Qty	TotalAmount	OrderDate
1	2	1600	2022-01-15
2	1	500	2022-02-20
3	1	200	2022-03-10

Customer Product Mapping:

CustomerID	OrderID	ProductID
c1	1	101
c2	2	102
c3	3	103

4. Stress management

Unnormalized form

Employee ID	FirstName	LastName	StressLevel	HoursOf Work	Breaks Taken	Physical Activity	Counseling Sessions
101	Sarah	White	Moderate	45	3	Yoga	2
102	Bob	Green	High	50	2	Jogging	1
103	Charlie	Black	Low	40	4	Meditation	3
104	David	Miller	High	48	1	Gym	2
105	Jane	Doe	Moderate	42	3	Walking	1

1NF

Already in 1NF.

2NF

Employee Information:

EmployeeID	FirstName	LastName	HoursOfWork	BreaksTaken
101	Sarah	White	45	3
102	Bob	Green	50	2
103	Charlie	Black	40	4
104	David	Miller	48	1
105	Jane	Doe	42	3

Employee Stress Management

EmployeeID	StressLevel	PhysicalActivity	CounselingSessions
101	Moderate	Yoga	2
102	High	Jogging	1
103	Low	Meditation	3

| 104 | High | Gym | 2 |
| 105 | Moderate | Walking | 1 |

3NF

The above tables are in 3NF.

5. Flee Market

Unnormalized form

ItemID	Seller Name	Item Name	Category	Price	Quantity	Description	Condition	Location	Date Listed
101	John's Treasures	Vintage Chair	Furniture	50.00	2	Beautiful vintage chair, excellent condition	Like New	Booth 15, Section A	2022-01-15
102	Alice's Finds	Antique Clock	Home Decor	80.00	1	Authentic antique clock with Roman numerals	Good	Stall 8, Section B	2022-02-20
103	Mark's Collectibles	Vinyl Records	Music	15.00	10	Various artists and genres, in good condition	Used	Booth 20, Section C	2022-03-10
104	Emma's	Vintage	Accessories	35.00	5	Assorted vintage jewelry	Excellent	Stall 12, Section D	2022-04-05

	Treasures	Jewelry				pieces, unique designs			
105	Robert's Finds	Retro Camera	Electronics	60.00	1	Vintage Polaroid camera with original case	Good	Booth 5, Section A	2022-05-15

1NF

Already in 1NF.

2NF

Seller Information:

sellerID	SellerName	Location
S1	John's Treasures	Booth 15, Section A
S2	Alice's Finds	Stall 8, Section B
S3	Mark's Collectibles	Booth 20, Section C
S4	Emma's Treasures	Stall 12, Section D
S5	Robert's Finds	Booth 5, Section A

Item Information:

ItemID	ItemName	Category	Price	Quantity	Description	Condition
101	Vintage Chair	Furniture	50.00	2	Beautiful vintage chair, excellent condition	Like New
102	Antique Clock	Home Decor	80.00	1	Authentic antique clock with Roman numerals	Good
103	Vinyl Records	Music	15.00	10	Various artists and genres, in good condition	Used

| 104 | Vintage Jewelry | Accessories | 35.00 | 5 | Assorted vintage jewelry pieces, unique designs | Excellent |
| 105 | Retro Camera | Electronics | 60.00 | 1 | Vintage Polaroid camera with original case | Good |

Item Seller Mapping:

ItemID	sellerID	DateListed
101	S1	2022-01-15
102	S2	2022-02-20
103	S3	2022-03-10
104	S4	2022-04-05
105	S5	2022-05-15

3NF

The above tables are in 3NF.

6. Learning Management System

Unnormalized form

CID	CourseName	Instructor	Department	Credits	Enrolled Students	StartDate	EndDate	Location	Availability
101	Introduction to Biology	Prof. Smith	Science	3	25	2022-01-15	2022-05-10	Room 101	Open

102	Programming in Python	Prof. Brown	Computer Science	4	30	2022-02-20	2022-06-15	Lab 3, Building B	Closed
103	Financial Accounting	Prof. Green	Finance	3	20	2022-03-10	2022-07-05	Room 201	Open
104	English Literature	Prof. White	Humanities	3	22	2022-04-05	2022-08-20	Room 301	Open
105	Web Development Fundamentals	Prof. Black	IT	4	28	2022-05-15	2022-09-25	Lab 2, Building A	Closed

1NF

Already in 1NF.

2NF

Course Information:

CID	CourseName	Department	Credits
101	Introduction to Biology	Science	3
102	Programming in Python	Computer Science	4
103	Financial Accounting	Finance	3
104	English Literature	Humanities	3
105	Web Development Fundamentals	IT	4

Instructor Information:

InstructorID	InstructorName
In01	Prof. Smith
In02	Prof. Brown
In03	Prof. Green
In04	Prof. White
In05	Prof. Black

Class Course Instructor Mapping:

ClassID	CID	Instructor ID	Enrolled Students	StartDate	EndDate	Location	Availability
C1	101	In01	25	2022-01-15	2022-05-10	Room 101	Open
C2	102	In02	30	2022-02-20	2022-06-15	Lab 3, Building B	Closed
C3	103	In03	20	2022-03-10	2022-07-05	Room 201	Open
C4	104	In04	22	2022-04-05	2022-08-20	Room 301	Open
C5	105	In05	28	2022-05-15	2022-09-25	Lab 2, Building A	Closed

3NF

The above tables are in 3NF.