

## Normalization Lab

1) Your task in this exercise is to move the un-normalized table to 3NF. To do this, use the dependency diagram.

Unnormalized Table									
Dept #	Dept Name	Location	Mgr Name	Mgr ID No.	Tel Extn.	Cust #	Cust Name	Date of Complaint	Nature of Complaint
11232	Soap Division	Cincinnati	Mary Samuel	S11	7711	P10451	Robert Drumtree	12/01/1998	Poor Service
						P10480	Steven Parks	14/01/1998	Discourteous Attendant

  

## 2- Employee and Projects

The table below depicts the requirements for a business consultancy working on local and international projects.

<u>Emp-No</u>	Emp-Name	Dept	Dept Manager	Proj-id	Proj-Start-Date	Location	Weeks-on-Project
005	Smith	Marketing	Jones	A	12-1993	Poole	11
				B	06-1994	Plymouth	15
				C	09-1994	Portsmouth	6
007	Bond	Accounts	Bloggs	B	06-1994	Plymouth	3
				D	06-1994	Berlin	9
009	King	Info Systems	Hurne	C	09-1994	Portsmouth	10
010	Holt	Accounts	Bloggs	A	12-1993	Poole	21
				B	06-1994	Belfast	10
				D	06-1994	Hamburg	12

Emp.no is the primary key. Employees work on a number of projects concurrently. *Weeks-on-project* represents the number of weeks that an employee has spent on a particular. The employee number, *emp-no*, and the project identifier, *project-id*, are unique identifiers. The department manager, *manager*, is the name of the current manager, i.e., there can be only one manager per department. A project can take place in several locations (i.e Employees can work on a project from their location). You are required to show the first, second and third normal forms.

### 3- Normalization:

The following table represents the database of a system that stores data about all Car Companies in Egypt. **Model ID** is the identifier for each model with a specific color. *Selling Price* is the price of that model in the specified Company. *Available Quantity* is the quantity of the model in this Company. *Dealer* is the distributor (موزع) of the specified model regardless of the Company. **Company ID** is the current **Primary Key** of the table.

**You are required to show the first, second and third normal forms.**

Company ID	Company Name	Company Address	Model ID	Model Name	Model Colour	Selling Price	Available Quantity	Dealer	Dealer Address
111	X	Haram,Giza	10	Accent	Silver	85000	3	Hyundai	Doki,Giza
			11	Accent	Black	88000	5	Hyundai	Doki,Giza
			20	Corolla	Black	134000	10	Toyota	Tahrir,Cairo
			30	Yaris	Grey	98000	8	Toyota	Tahrir,Cairo
222	Y	Heliopolis,Cairo	10	Accent	Silver	82000	11	Hyundai	Doki,Giza
			31	Yaris	Silver	97000	5	Toyota	Tahrir,Cairo
333	Z	Doki,Giza	20	Corolla	Black	133000	6	Toyota	Tahrir,Cairo
			21	Corolla	Silver	129000	5	Toyota	Tahrir,Cairo
			40	Cerato	Red	95000	4	Kia	Zamalek,Giza
			41	Cerato	Grey	95000	8	Kia	Zamalek,Giza
			50	Picanto	Light Blue	65000	10	Kia	Zamalek,Giza