

## **Assignment No. 01**

This is a group assignment where each group comprises maximum 3 students.

**Deadline: Tuesday April 17, 2018**

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### **Case Study 1**

A college maintains details of its faculty and their subject area skills. These details comprise:

- Faculty Number, Faculty Name, Faculty Grade
- Department Code, Department Name
- Subject Code, Subject Name, Subject Level

Assume that each faculty member may teach many subjects but may not belong to more than one department. Subject Code, Subject Name and Subject Level are repeating fields. Normalize this data to BCNF.

### **Case Study 2**

A software contract and consultancy firm maintains details of all the various projects in which its employees are currently involved. These details comprise:

- Employee Number, Employee Name, Date of Birth
- Department Code, Department Name
- Project Code, Project Description, Project Supervisor

Assume the following:

- Each employee number is unique.
- Each department has a single department code.
- Each project has a single code and supervisor.
- Each employee may work on one or more projects.
- Employee names need not necessarily be unique.
- Project Code, Project Description and Project Supervisor are repeating fields.

Normalize this data to BCNF. Feel free to create different functional dependencies.

## Project Management Report

**Project Code:** PC010  
**Project Title:** Pensions System

**Project Manager:** M Phillips  
**£24,500**

**Project Budget:**

Employee No.	Employee Name	Department No.	Department Name	Hourly Rate
S10001	A Smith	L004	IT	£22.00
S10030	L Jones	L023	Pensions	£18.50
S21010	P Lewis	L004	IT	£21.00
S00232	R Smith	L003	Programming	£26.00

**Total Staff on Project: 4**

**Average Hourly Rate: £21.88**

Calculated Fields

Project Code	Project Title	Project Manager	Project Budget	Employee No.	Employee Name	Department No.	Department Name	Hourly Rate
PC010	Pensions System	M Phillips	24500	S10001	A Smith	L004	IT	22.00
PC010	Pensions System	M Phillips	24500	S10030	L Jones	L023	Pensions	18.50
PC010	Pensions System	M Phillips	24500	S21010	P Lewis	L004	IT	21.00
PC045	Salaries System	H Martin	17400	S10010	B Jones	L004	IT	21.75
PC045	Salaries System	H Martin	17400	S10001	A Smith	L004	IT	18.00
PC045	Salaries System	H Martin	17400	S31002	T Gilbert	L028	Database	25.50
PC045	Salaries System	H Martin	17400	S13210	W Richards	L008	Salary	17.00
PC064	HR System	K Lewis	12250	S31002	T Gilbert	L028	Database	23.25
PC064	HR System	K Lewis	12250	S21010	P Lewis	L004	IT	17.50
PC064	HR System	K Lewis	12250	S10034	B James	L009	HR	16.50