

 ISTE230	<h1 style="text-align: center;">Database Design and Implementation</h1> <p style="text-align: center;">PE #05</p>	
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**Name:** Please put Last name (Lastname, Firstname) Apollo, Andrew

Practice Exercise 5 Assignment box PE05

**Download this Word file, edit it, upload this document with answers typed in this document. I like PDF files the best, but if you have problems with creating PDF's then submit a Word Document to the assignment box.**

**Notice** the functional dependencies are provided for you in each question. Study the functional dependencies provided before you attempt your answer for each question.

For each problem below, normalize the relations into the second Normal Form 2nf.

**Be sure to use proper relational notation (relational schema):**

RELATION(pkattr, attribute1, attribute2, attribute3, *fkattr*)

**Include reference statements for foreign keys (Must Exist In or M.E.I.) statements**

### **Problem #1**

EMPLOYEE2					
Emp_ID	Name	Dept_Name	Salary	Course_Title	Date_Completed
100	Margaret Simpson	Marketing	48,000	SPSS	6/19/200X
100	Margaret Simpson	Marketing	48,000	Surveys	10/7/200X
140	Alan Beeton	Accounting	52,000	Tax Acc	12/8/200X
110	Chris Lucero	Info Systems	43,000	SPSS	1/12/200X
110	Chris Lucero	Info Systems	43,000	C++	4/22/200X
190	Lorenzo Davis	Finance	55,000		
150	Susan Martin	Marketing	42,000	SPSS	6/19/200X
150	Susan Martin	Marketing	42,000	Java	8/12/200X

EMPLOYEE2(Emp\_ID, Name, Dept\_Name, Salary, Course Title, Date\_Completed)

Functional Dependencies:

Emp\_ID, Course\_Title → Name, Dept\_Name, Salary, Date\_Completed

EmpID → Name, Dept\_Name, Salary

**YOUR ANSWER (in relational schema format) is? What is your M.E.I. statement ?**

Employee(Emp\_ID, name, Dept\_Name, Salary)

Course(Emp ID, Course Title, Date\_Completed)

Course (Emp ID) M.E.I. Employee (Emp\_ID)

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**Problem #2**

ENGINEER-SERVICE(empID, firstname, lastname, email, serviceID, servicename)

Functional Dependencies:

empID, serviceID → firstname, lastname, email, servicename

empID → firstname, lastname, email

email → empID, firstname, lastname

serviceID → servicename

**YOUR ANSWER (in relational schema format) is?**

**What is your M.E.I. statement**

Engineer (empID, firstName, lastName, email)

Service(serviceID, serviceName)

Engineer-Service (empID, serviceID)

Engineer-Service (empID) M.E.I. Engineer (empID)

Engineer-Service(serviceID) M.E.I Service(serviceID)

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### **Problem #3**

#### **Movie**

Title	Year	Length	Type	Studio	Star
Star Wars	1977	124	Color	Fox	C. Fisher
Star Wars	1977	124	Color	Fox	M. Hamil
Star Wars	1977	124	Color	Fox	H. Ford
Alien	1979	117	Color	Paramount	S. Weaver
Aliens	1986	137	Color	Paramount	S. Weaver
Alien3	1992	113	Color	Paramount	S. Weaver
Annie Hall	1977	93	Color	Warner Bros	W. Allen
Annie Hall	1977	93	Color	Warner Bros	D. Keaton
Chaplin	1992	124	B&W	MGM	R. Downey
Dr. Strangelove	1964	93	B&W	Paramount	R. Torn
Restoration	1995	117	Color	Miramax	R. Downey

MOVIE(Title, Year, Length, Type, Studio, Star)

Functional Dependencies:

Title, Star → Year, Length, Type Studio

Title → Year, Length, Type, Studio

**YOUR ANSWER (in relational schema format) is?      What is your M.E.I. statement?**

Movie (Title, Year, Length, Type, Studio)

Star (Title, Star)

Star(Title) M.E.I. Movie(Title)

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## Problem #4

Is This a relation? YES OR NO

What is/are the Primary key? \_\_\_\_\_ It appears to have 2 fields (COMPOSITE KEY)

Normalize the following table. Use Relational Schema! Please include a proper M.E.I.

SupplierID	SupplierName	Phone	Email	ProductID	ProductName	UnitPrice
00001	Acme Corporation	(585)475-6369	sales@acme.com	1	Chocolates	10.50
00001	Acme Corporation	(585)475-6369	sales@acme.com	2	Iphone	1000.50
00001	Acme Corporation	(585)475-6369	sales@acme.com	3	Toy rockets	975.50
00001	Acme Corporation	(585)475-6369	sales@acme.com	4	Basketball	22.99
00002	Hobby Lobby	(555)233-5555	sales@hobby_lobby.com	1	Cricut Explore Air	250.00
00002	Hobby Lobby	(555)233-5555	sales@hobby_lobby.com	2	Chalk Paint	9.95
00002	Hobby Lobby	(555)233-5555	sales@hobby_lobby.com	3	Ink Pad	4.50
00010	Dicks Sporting Goods	(585)555-1234	sales@sporting_goods.com	1	Baseball Glove	42.00
00010	Dicks Sporting Goods	(585)555-1234	sales@sporting_goods.com	2	Baseball HAT	22.99
00010	Dicks Sporting Goods	(585)555-1234	sales@sporting_goods.com	3	Baseball Bat	31.99

10 rows in set (0.00 sec)

mysql>

Supplier(SupplierID, SupplierName, Phone, Email)

Product (ProductID, SupplierID, ProductName, UnitPrice)

Product(SupplierID) M.E.I. Supplier(SupplierID)