

Areeb Ahmed

FA19-BSE-022

Sec: B

Course: Database

Sessional # 02

Question: 01

a)

StudentID \rightarrow Name

Course ID \rightarrow Course Name

Teacher ID \rightarrow Teacher Name

Teacher ID, Teacher Name \rightarrow Semester

b) If we want to change teacher name of F107, we should have to update rows, in order to maintain integrity. This is a time taking process.

Question: 01
c) 1NF:

Student ID.	Name	course Id	Course Name	Semester	Teacher Name	Teacher Id
48001 (Pk)	Ahmed	CS100	OS	FA16	Dr. Suleman	F107
48001	Ahmed	CS106	CV	SP17	Dr. Mohsen	F148
48007	Faizan	CS100	OS	FA16	Dr. Suleman	F107
48007	Faizan	CS119	GD	SP17	Dr. Ashraf	F203
48009	Waleed	CS100	OS	FA16	Dr. Suleman	F107
48009	Waleed	CS104	IOT	SP17	Dr. Adnan	F567
48024	Imran	CS100	OS	FA16	Dr. Suleman	F107
48024	Imran	CS104	IOT	SP16	Dr. Adnan	F567

2NF:

Student Id, course Id. - (Pk)

student Id is partially dependent on Name

Student ID \rightarrow Name (T)

course ID \rightarrow Name (F)

Course ID partial dependent on Course Name

Student ID \rightarrow course Name (F)

course ID \rightarrow course Name (T)

Fully functional on primary key (Pk)

Student Id \rightarrow Semester (F)

course Id \rightarrow semester (F)

Course ID partial dept on teacher Id

Student Id \rightarrow Teacher Name (F)

Course Id \rightarrow Teacher Name (T)

Course Id partially dependant Teacher Id.

Student Id \rightarrow Teacher Id (F)

Course Id \rightarrow Teacher Id (T)

Student Id, Course Id, Semester

Course Id, Course Name, Teacher Name, Teacher Id, Student

Student Id, name.

2NF:

Student ID	Name
48001	Ahmed
48007	Fai'zan
48009	Waleed
48024	Imran

Student Id	Course Id	Semester
48001	CS100	FA16
48001	CS106	SP17
48007	CS100	FA16
48007	CS119	SP17
48009	CS100	FA16
48009	CS104	SP17
48024	CS100	FA16
48024	CS104	SP16

Course Id	Course Name	Teacher Name	Teacher Id
CS100	OS	Dr. Suleman	F107
CS106	CV	Dr. Mohsin	F145
CS119	GD	Dr. Ashraf	F203
CS104	IOT	Dr. Adnan	F567

3NF :

Teacher Name	Teacher Id
Dr. Suleman	F107
Dr. Mohsin	F145
Dr. Ashraf	F203
Dr. Adnan	F507

Question = 02

Select T.Dept as Dept. SUM(SubjectCount) As Total Subjects
 From Teacher T, Subjects S
 Where T.TeacherID = S-TeacherID
 Group By T.Dept.

Question: 03

a) entities :

- i) Users
- ii) items
- iii) Categories
- iv) Request forms

b) attributes :

- i) user (Uname, Uid, Uphone, Uaddress)
- ii) items (Iname, Iid, Uid)
- iii) Categories (Iid, Category)
- iv) Requestforms (Ephone, Rname, Rid, Lid)

c) Keys :

- i) User
 - Primary key (Uid)
- ii) Items
 - Primary key (Iid)



11/11/11