NORMALIZATION

For Relation 1 : Teaches (S\_id, S\_Name,City,Country, T\_id,T-Name,T\_P-Number,Salary)

1NF:Phone Number is a multi valued attribute.

2NF:S\_id,S\_name,City,Country

T\_id, T\_name, Salary, T\_P-Number  
3NF:S\_ID,S\_Name,C\_ID

C\_ID,City,Country

T\_ID,T\_Name,Salary,T\_P-Number

Final Table: 1)S\_id,S\_Name,(C\_ID)

2)C\_ID,City,Country

3)T\_id,T\_name,Salary,T\_P-Number

4)N\_id,(S\_id),(T\_id)

For relation 2: PaySalary (T\_id,T\_name,Salary,T\_P-Number, Emp\_id,E\_name,Age,Hiredate)

1NF: Phone Number is a Multi valued attribute

2NF:T\_id,T\_name,Salary,T\_P-Number

Emp\_id,E\_name,Age,Hiredate

3NF:Non-transitive Dependency

Final Table: 1)T \_id,T\_name,Salary,T\_P-Number,(Emp\_id)

2)Emp\_id,E\_Name,Age,Hiredate

For Relation 3: Works(T\_id,T\_Name,Salary, T\_P-Number, Pr\_id,Pr\_Title)

1NF:Phone Number is a multi valued attribute

2NF:T\_id,T\_name,Salary,T\_P-Number

Pr\_id,Pr\_Title

3NF:Non-transitive Dependency

Final Table: 1)T \_id,T\_name,Salary,T\_P-Number

2)Pr\_id,Pr\_Title

3)M\_id,(T\_id),(Pr\_id)

For Relation 4 :Take Books(S\_id,S\_name,City,Country, L\_id, L\_capacity, B-Name)

1NF:No multi valued attribute.

2NF: S\_id,S\_name,City,Country

L\_id,L\_capacity,B\_Name

3NF:S\_id,S\_Name,C\_ID

C\_ID,City,Country

L\_id,L\_capacity,B\_Name

Final Table: 1)S\_id,S\_name,(C\_ID),(L\_id),

2)C\_ID,City,Country

3)L\_id,L\_capacity,B\_Name

For Relation 5 :Studies(S\_id,S\_name,City,Country, Co\_id,Co\_Title,Section)

1NF:No multi valued attribute.

2NF:S\_id,S\_name,City,Country

Co\_id,Co\_Title,Section  
3NF:S\_id,S\_Name,C\_ID

C\_ID,City,Country

Co\_id,Co\_Title,Section

Final Table: 1)S\_id,S\_name,(C\_ID)

2)C\_ID,City,Country

2)Co\_id,Co\_Title,Section

3)J\_id,(S\_id),(Co\_id)

For Relation 6 :Takes(T\_id,T\_name,Salary,T\_P-Number,Co\_id,Co-Title,Section)

1NF: Phone Numer is a multi valued attribute

2NF:T\_id,T\_name,salary,T\_P-Number

Co\_id,Co\_Title,Section

3NF:Non-Transitive dependancy

Final Table: 1)T\_id,T\_name,salary,T\_P-Number

2)Co\_id,Co\_Title,Section

3)K\_id,(T\_id),(Co\_id)

For Relation 7: Manage(T\_id,T-name,T\_P-number,salary,D\_id,D\_name,Number of course)

1NF:Phone Number is a Multi valued attribute.

2NF:T\_id,T\_name,Salary,T\_P-Number

D\_id,D\_name,Number of Course  
3NF:Non-Transitive Dependency

Final Table: 1)T\_id,T\_name,Salary,T\_P-Number,(D\_id)

2)D\_id,D\_name,Number of course

For Relation 8 :Has(Co\_id,Co\_Title,Section, D\_id,D-name,Number of course)

1NF:No multi valued attribute

2NF:Co\_id,Co\_Title,Section

D\_id,D\_name,number of course  
3NF:Non-Transitive Dependency

Final Table: 1)Co\_id,Co\_Title,Section,(D\_id)

2)D\_id,D\_name,Number of course

For Relation 9 :Supervise (Emp\_ID,E\_Name,Age,Hiredate, D\_id,D-name,Number of course)

1NF:No multi valued attribute

2NF:Emp\_ID,E\_Name,Age,Hiredate

D\_id,D\_name,number of course  
3NF:Non-Transitive Dependency

Final Table: 1)D\_id,D\_name,Number of course,(Emp\_ID)

2)Emp\_ID,E\_Name,Age,Hiredate

FINAL TABLE LIST:

1)D\_id,D\_name,Number of course,(Emp\_ID)

2)Emp\_ID,E\_Name,Age,Hiredate

3)Co\_id,Co\_Title,Section,(D\_id)

4)T\_id,T\_name,Salary,T\_P-Number,(D\_id),(Emp\_id)

5)K\_id,(T\_id),(Co\_id)

6)C\_ID,City,Country

7)J\_id,(S\_id),(Co\_id)

8)S\_id,S\_name,(C\_ID),(L\_id),

9)L\_id,L\_capacity,B\_Name

10)Pr\_id,Pr\_Title

11)M\_id,(T\_id),(Pr\_id)

12)N\_id,(S\_id),(T\_id)