

CSE 4307: Database Management Systems
Assignment for Quiz 3 Full Marks: 15
Last date of submission: December 27, 2022
Submission should be done through the Google Classroom.

1. Write a program using any suitable programming language to deduce all possible Candidate Keys (CKs) for a given Relation (R) and a set of Functional Dependencies (FDs) (15)
(CO1,PO1)

Followings are the instructions and conventions for the given task.

- You should use *Only Method 3* for finding all possible CKs. See the corresponding class lecture for details of Method 3.
- The input should be in text file such as `input.txt`. The file should have entries as follows (as an example): (all entries are in UPPER CASE letter)

`sample input.txt`

```
R(A,B,C,D)
A->B, B->C, D->A
```

It implies that line no. 1 contains the Relation where attributes are enclosed withing (, ,) and each attribute is separated by a comma ,
FDs are given in line no.2, each FD is separated by a comma ,
the arrow symbol is denoted by ->

- The program should write all possible CKs in another file such as `output.txt`. Sample entry for output.txt is given bellow :

`sample output.txt`

There are a total of 3 possible CKs. They are given below:

```
CK1: AB
CK2: BD
CK3: CD
```

- The program should be able to run correctly in each new settings of `input.txt`

Note: Assignment should be submitted¹ to a **single .zip file** where both sources and text files should exist. The sources must be commented properly. The program must be runnable independently.

¹All Assignments will be checked (by the evaluator) using Turnitin Software to ensure the integrity