DBMS Assignment 4: Schema creation and constraints

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Statement: Create the schema and constraints on the relations.

Modify the trains schema which we saw earlier to create constraints to check the following:

- The value of timein is always less than or equal to timeout

```
1 •  use railway;
2 •  alter table trainhalts
3    add constraint time_verify CHECK( timein <= timeout);
```

- When a train is removed from service, all its halts should be deleted.

```
5 •  alter table trainhalts add constraint train_fk
6    FOREIGN KEY (id) REFERENCES train(id) ON DELETE
7    CASCADE;
8
```

- Insert inconsistent data and verify the constraints.

```
9 •  insert into trainhalts values("AS34", 10, "DR", "20.12", "20.08");
```

```
5  19:33:04  insert into trainhalts values("AS34", 10, "DR", "20.12", "20.08")   Error Code: 3819. Check constraint 'time_verify' is violated.
```

Write SQL Create table statements to create the following schema. Include all appropriate primary and foreign key declarations. Choose appropriate types for each attribute.

- remotecentre(centreId, college, town, state)

```
11 •  CREATE DATABASE EXAM_CENTRE;
12 •  USE EXAM_CENTRE;
13
14 •  CREATE TABLE IF NOT EXISTS remotecentre(
15        centreID varchar(255),
16        college varchar(255),
17        town varchar(255),
18        state varchar(255),
19        PRIMARY KEY (centreID)
20    );
```

- person(ID, name, email)

```
22 •  create table person(
23        ID varchar(255),
24        name varchar(255),
25        email varchar(255),
26        PRIMARY KEY (ID)
27    );
28
```

- programme(progId, title, fromdate, todate)

```
29 •  create table programme(
30        progId varchar(255),
31        title varchar(255),
32        fromdate date,
33        todate date,
34        PRIMARY KEY (progId)
35    );
36
```

- coordinator(ID, progId, centreId)

```
37 • create table coordinator(
38       ID varchar(255),
39       progID varchar(255),
40       centreId varchar(255),
41       FOREIGN KEY (ID) references person (id),
42       FOREIGN KEY (progID) references programme (progID),
43       FOREIGN KEY (centreID) references remotecentre (centreID)
44   );
45
```

- participant(ID, progId, centreId)

```
46 • create table participant(
47       ID varchar(255),
48       progID varchar(255),
49       centreId varchar(255),
50       FOREIGN KEY (ID) references person (id),
51       FOREIGN KEY (progID) references programme (progID),
52       FOREIGN KEY (centreID) references remotecentre (centreID)
53   );
54
```