# Assignment

**Summary**

* Setup a relational database using PG Admin.
* Setup a user interface to select and upload file to Database. You can choose any IDE and any web programming language like HTML and script to do it.

## Database Setup

**Requirement**: Setup 3 tables, relational database using PG Admin. You can install any version of PG admin on your system.

**Tables & Fields:** See below for name of tables and their respective fields

### Grade Table:

|  |  |  |
| --- | --- | --- |
| **ID** | **GradeID** | **Grade** |
| 1 | G003 | Grade3 |
| 2 | G004 | Grade4 |
| 3 | G005 | Grade5 |

Notes:

1. Create a Grade table and insert one time data for GradeID and Grade using insert query.
2. ID is a sequence will generate from table only.
3. Later, you will have to display Grade on Question table based on GradeID
4. Column headers are field names and rest are the values to insert.
5. You are free to decide Unique, primary, foreign or any type of key.

### Subject Table:

|  |  |  |
| --- | --- | --- |
| **ID** | **SubjectID** | **Subject** |
| 1 | S001 | Math |
| 2 | S002 | English |
| 3 | S003 | General Knowledge |

Notes:

1. Create a Subject table and insert one time data using insert query.
2. ID is a sequence will generate from table only.
3. Later, you will have to display Subject on Question table based on SubjectID.
4. Column headers are field names and rest are the values to insert.
5. You are free to decide Unique, primary, foreign or any type of key.

### Question Table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Id** | **QuestionsId** | **QuestionsText** | **GradeId** | **Grade** | **SubjectID** | **Subject** |
| 1 | FC2R44 |  | G003 |  | S001 |  |
| 2 | FC2R45 |  | G003 |  | S002 |  |
| 3 | FC2R46 |  | G003 |  | S003 |  |
| 4 | FC2R47 |  | G003 |  | S001 |  |
| 5 | FC2R48 |  | G003 |  | S002 |  |
| 6 | FC2R49 |  | G003 |  | S003 |  |
| 7 | FC2R50 |  | G003 |  | S001 |  |
| 8 | FC2R51 |  | G003 |  | S002 |  |
| 9 | FC2R52 |  | G003 |  | S003 |  |
| 10 | FC2R53 |  | G003 |  | S001 |  |
| 11 | FC2R54 |  | G004 |  | S002 |  |
| 12 | FC2R55 |  | G004 |  | S003 |  |
| 13 | FC2R56 |  | G004 |  | S001 |  |
| 14 | FC2R57 |  | G004 |  | S002 |  |
| 15 | FC2R58 |  | G004 |  | S003 |  |
| 16 | FC2R59 |  | G004 |  | S001 |  |
| 17 | FC2R60 |  | G004 |  | S002 |  |
| 18 | FC2R61 |  | G004 |  | S003 |  |
| 19 | FC2R62 |  | G004 |  | S001 |  |
| 20 | FC2R63 |  | G004 |  | S002 |  |
| 21 | FC2R64 |  | G004 |  | S003 |  |
| 22 | FC2R65 |  | G005 |  | S001 |  |
| 23 | FC2R66 |  | G005 |  | S002 |  |
| 24 | FC2R67 |  | G005 |  | S003 |  |
| 25 | FC2R68 |  | G005 |  | S001 |  |
| 26 | FC2R69 |  | G005 |  | S002 |  |
| 27 | FC2R70 |  | G005 |  | S003 |  |
| 28 | FC2R71 |  | G005 |  | S001 |  |
| 29 | FC2R72 |  | G005 |  | S002 |  |
| 30 | FC2R73 |  | G005 |  | S003 |  |

Notes:

1. Column headers are field names and rest are the table values to upload from web user interface.
2. You are free to decide Unique, primary, foreign or any type of key.
3. Create functions to read, insert and update data on Question table.
4. We will provide upload data, let us know when you are ready for demo.
5. Grade and Subject fields are going to populate from Grade and subject tables, you will have to pass IDs only.
6. QuestionsID is going to be an alphanumeric value, you will have to create a function to generate from table only, will provide you upload data; QuestionsText, GradeID and SubjectID.
7. ID is a sequence field will generate on table only.

## Local Web User interface

Summary

* Set up a local, web-based User interface to upload file on Question table.
* You can choose any IDE, VS code is an open source IDE.
* Set a very simple UI:
  + Define file size to upload.
  + Check file size before to initiate upload. Show error "File size exceeded".
  + File type should be CSV.
  + This is going to be very simple process, select file from local system and upload to Question table.
  + You can choose any programming language / script to do it.

### UI Layout:

Graphical user interface

Description automatically generated

Graphical user interface, application

Description automatically generated

Graphical user interface, application

Description automatically generated

## Timeline

It's a 2-week assignment and you are free to get any help from Google or college but for us this is going to be your solo performance, to evaluate your capabilities.