Database coursework

Taeseung You

COMP23111

29/11/2021

Part A

Quiz ID 34

Quiz Name SQL

Quiz Author Peter Parker

Quiz Available Yes

Quiz Duration 60 minutes

Student ID 44

Student Name Duncan Hull

Date of Attempt 22/11/2020

Questions

1. Which SQL statement is used to extract data from a database?

   Select

   Open

   EXTRACT

   GET

2. Which SQL statement is used to insert new data in a database?

   INSERT NEW

   INSERT INTO

   ADD RECORD

ADD NEW

3. Which SQL, how do you select all the records from a table named "persons" where the value of the column "FirstName" is "Peter"?

   SELECT * FROM Persons WHERE FISRTNAME <> 'Peter'

   SELECT [all] FROM Person WHERE FIRSTNAME = 'Peter'

   SELECT * FROM Persons WHERE FIRSTNAME ='Peter'

   SELECT [all] FROM Person WHERE FirstName LIKE 'Peter'

UNF

Database

Underlying means Primary Key

Quiz ID – indicate whole question lists

Quiz Name

Quiz Author

Quiz Available

Quiz Duration

Quiz Question - Numbers which indicate the which question it is

Quiz MCQ option

Quiz Answer

Member_ ID

Password

status

Forename

surname

Date of Attempt

score

UNF

Quiz DataBase

QUIZ[Quiz ID, Quiz Available,Quiz Duration, Quiz name, Quiz Question, Quiz MCQ option, Quiz Author, Quiz Answer, Memebr ID, status, Forename, surname, Date of Attempt, Score, password]

*Quiz ID , QuizDuration, Quiz Name , *Quiz Question, *Quiz MCQ option, Quiz Author ,Quiz Answer, *Member ID, status, Forename, surname, Date of Attempt , Quiz Available , score

34 60 min SQL 1.which SQl.. SELECT peter parker 3 44 user(false) Duncan hull 22/11/2020 true Null

34 60 min SQL 1.which SQl.. OPEN peter parker 3 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 1.which SQl.. EXTRACT peter parker 3 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 1.which SQl.. GET peter parker 3 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 2.which SQL.. INSERT NEW peter parker 2 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 2.which SQl.. INSERT INT peter parker 2 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 2.which SQl.. ADD RECORD peter parker 2 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 2.which SQl.. ADD NEW peter parker 2 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 3.which SQl.. SELECT * peter parker 3 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 3.which SQl.. SELECT [ALL] peter parker 3 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 3.which SQl.. SELECT * peter parker 3 44 user Duncan hull 22/11/2020 true Null

34 60 min SQL 3.which SQl.. SELECT [ALL] peter parker 3
44 user Duncan hull 22/11/2020 true Null

1NF

- removing repeating group

Quiz[Quiz ID, Quiz Duration, Quiz Name, Quiz Author, Member ID, status, Forename, surname, date of attempt, Quiz Available, Score, Password]

Quiz Detail[Quiz ID, Quiz Question, Quiz Answer]

Quiz Question option[Quiz ID, Quiz Question, Quiz MCQ option]

*Quiz ID Quiz Duration Quiz Name Quiz Author *Memeber ID status ForeName SurName Date of Attempt Quiz Available Score

34 60min SQL Peter Parker 44 user Duncan hull 22/11/2020 Yes Null

*Quiz ID *Quiz Question Quiz Answer

34 1.which SQL.. 3

34 2.which SQL.. 2

34 3.which SQL.. 3

*Quiz ID *Quiz Question Quiz MCQ option

34 1.which SQL.. SELECT

34 1.which SQL.. OPEN

34 1.which SQL.. EXTRACT

34 1.which SQL.. GET

2NF

fully functional dependency with primary key

MEMBER [Member ID, Password, status, Forename, surname,]

QUIZ[member ID, Quiz ID, Quiz Duration, Quiz Name, Quiz Author, Date of Attempt, Quiz Available,Score]

Quiz Detail[Quiz ID, Quiz Question, Quiz Answer]

Quiz Question option[Quiz ID, Quiz Question, Quiz MCQ option]

*Memeber ID status ForeName SurName Score

44 user Duncan hull null

*Member_ID *Quiz ID Quiz Duration Quiz Name Quiz Author Date of Attempt Quizavailable

44 34 60min SQL Peter Parker 22/11/2020 Yes

*Quiz ID *Quiz Question Quiz Answer

34 1.which SQL.. 3

34 2.which SQL.. 2

34 3.which SQL.. 3

*Quiz ID *Quiz Question Quiz MCQ option

34 1.which SQL.. SELECT

34 1.which SQL.. OPEN

34 1.which SQL.. EXTRACT

34 1.which SQL.. GET

3NF

No non-key (transitive) dependencies

MEMBERstatus [Member ID, status]

MEMBERforname [Member ID, Forename]

MEMBERsurname [Member ID, surname]

MEMBERPassword[Member_ID, Password]

QUIZduration[member ID, Quiz ID, Quiz Duration]

QUIZname[member ID, Quiz ID, Quiz Name]

QUIZauthor[member ID, Quiz ID, Quiz Author]

QUIZdate of attempt[member ID, Quiz ID, Date of Attempt]

QuizAvaiable[member ID, Quiz ID,QuizAvailable]

QUIZscore[member ID, Quiz ID,score]

QuizDetail[Quiz ID, Quiz Question, Quiz Answer]

QuizQuestionoption[Quiz ID, Quiz Question, Quiz MCQ option]

*Memeber ID status

44 user

*Memeber ID ForeName

44 Duncan

*Memeber ID SureName

44 hull

*Member_ID *Quiz ID Quiz Duration

44 34 60min

*Member_ID *Quiz ID Quiz Name

44 34 SQL

*Member_ID *Quiz ID Quiz Author

44 34 Peter Parker

*Member_ID *Quiz ID Date of Attempt

44 34 22/11/2020

*Quiz ID *Quiz Question Quiz Answer

34 1.which SQL.. 3

34 2.which SQL.. 2

34 3.which SQL.. 3

*Quiz ID *Quiz Question Quiz MCQ option

34 1.which SQL.. SELECT

34 1.which SQL.. OPEN

34 1.which SQL.. EXTRACT

34 1.which SQL.. GET

PART B

MEMBER[Member ID, Password, status, forename, surname,]

Member ID INT 255 NOT NULL

Password INT 255 NOT NULLL

Status Boolean 0- user/ 1 – staff

Forename Varchar 255 NOT NULL

Surnmae varchar 255 NOT NULL

Primary key member ID Password

QUIZtable[Member_ID, QUIZID, Quizduration, Quizname, Quizauthor, Quizavailable, Quizdateofattempt,score]

Member ID INT 255 NOT NULL

QUIZID INT 255 NOT NULL

QUIZduration INT 255 NOT NULL

Quizname VARCHAR 255 NOT NULL

Quizauthor VARCHAR 255 NOT NULL

Quizavailable Boolean 0/1

Quizdataeofattempt date

Score Int 255

QuizDetail[Quiz ID, Quiz Question, Quiz Answer]

Quiz ID NOT NULL INT 255

Quiz Question NOT NULL VARCHAR 255

Quiz Question VARCHAR 255

Primary KEY Quiz ID Quiz Question

QuizQuestionoption[Quiz ID, Quiz Question, Quiz MCQ option]

Quiz ID NOT NULL INT 255

Quiz Question NOT NULL VARCHAR 255

Quiz MCQ option NOT NULL VARCHAR 255

Primary KEY Quiz ID Quiz Question

PART C

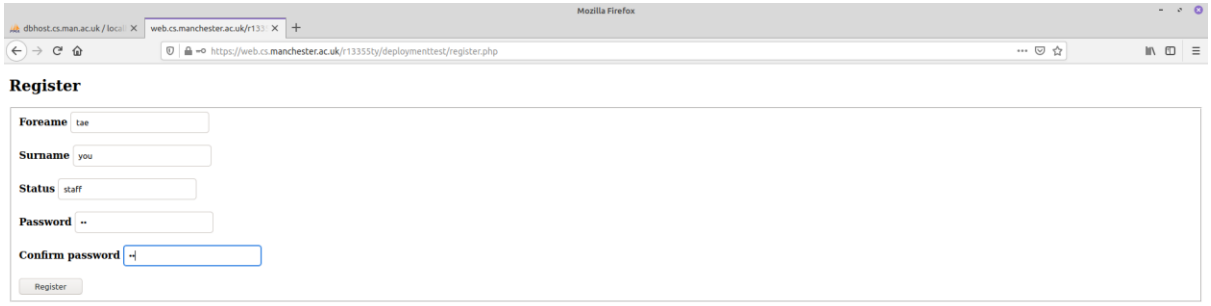
```
CREATE TABLE Memeber(
        Member_ID INT(255) NOT NULL,
        status  BOOLEAN DEFAULT FALSE,
        forename  VARCHAR(255) NOT NULL,
        surname VARCHAR(255) NOT NULL,
        password VARCHAR (255) NOT NULL,
        PRIMARY KEY (Member_ID, password)
);
CREATE TABLE QUIZtable(
        Member_ID INT(255) NOT NULL,
        QuizID INT (255) NOT NULL,
        Quizduration INT(255),
```

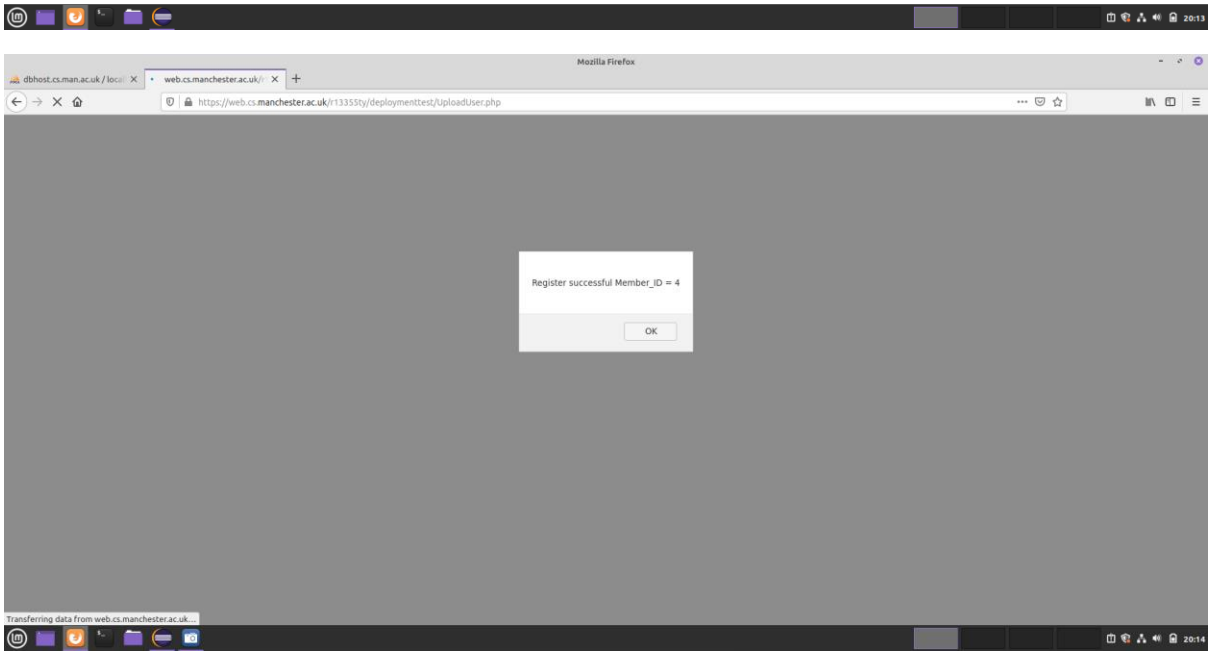
```
        Quizname VARCHAR(255) NOT NULL,
        Quizauthor  VARCHAR(255) NOT NULL,
        Quizavailable  BOOLEAN  DEFAULT FALSE NOT NULL,
        score  INT(255) NOT NULL,
        Quizdateofattempt date ,
        PRIMARY KEY (Member_ID,QuizID),
        FOREIGN KEY (Member_ID) REFERENCES Memeber(Member_ID),
        KEY QuizID_index (QuizID)
);
CREATE TABLE QUIZdetail(
        QuizID INT (255) NOT NULL,
        QuizQuestion VARCHAR(255) NOT NULL,
        QuizAnswer VARCHAR(255) NOT NULL,
        PRIMARY KEY (QuizID,QuizQuestion),
        FOREIGN KEY (QuizID) REFERENCES QUIZtable(QuizID),
        KEY QuizQuestion_index (QuizQuestion)
);
CREATE TABLE QUIZQuestionoption(
        QuizID INT (255) NOT NULL,
        QuizQuestion VARCHAR(255) NOT NULL,
        Quizoption VARCHAR (255) NOT NULL,
        PRIMARY KEY (QuizID,QuizQuestion,Quizoption),
    FOREIGN KEY (QuizID) REFERENCES QUIZdetail(QuizID),
    FOREIGN KEY (QuizQuestion)  REFERENCES QUIZdetail(QuizQuestion)
);
```

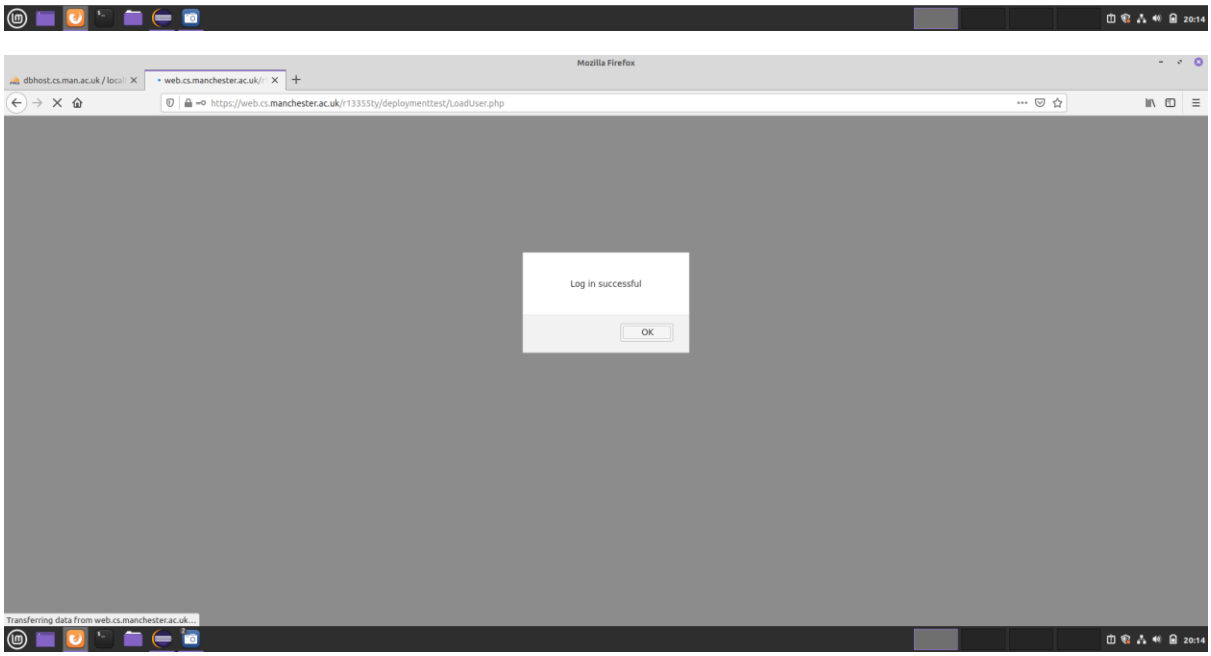
Part D

Register

When user try to register, user need to put forename,surname status which user can decide staff or student, password and confirmed password. After user regishter, It gives member_ID which is ID for login.

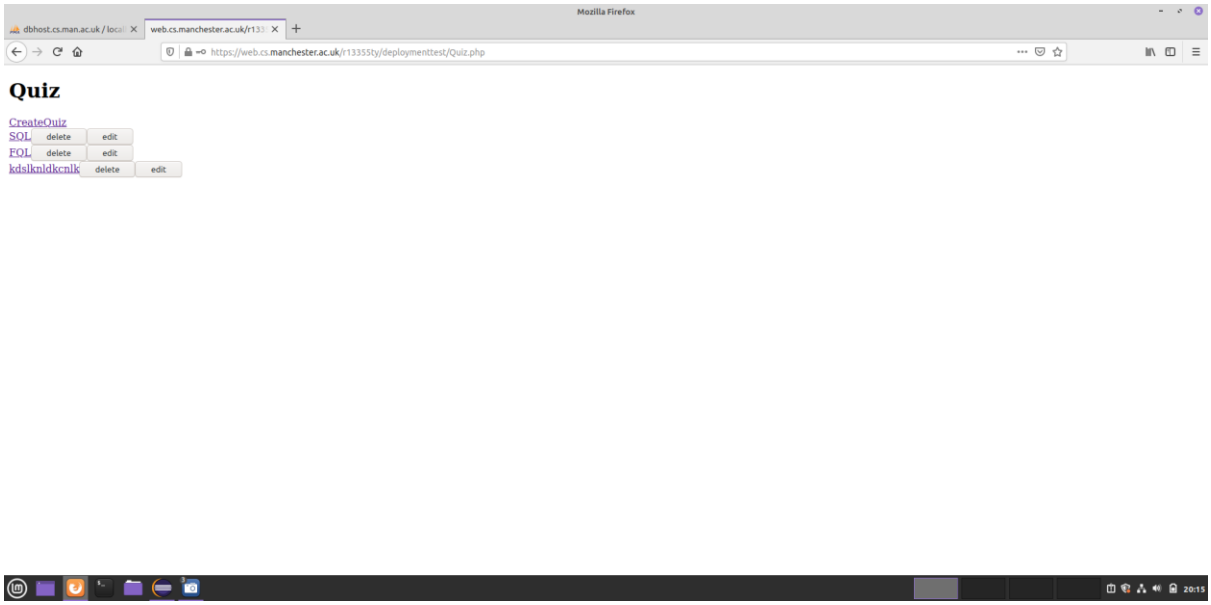


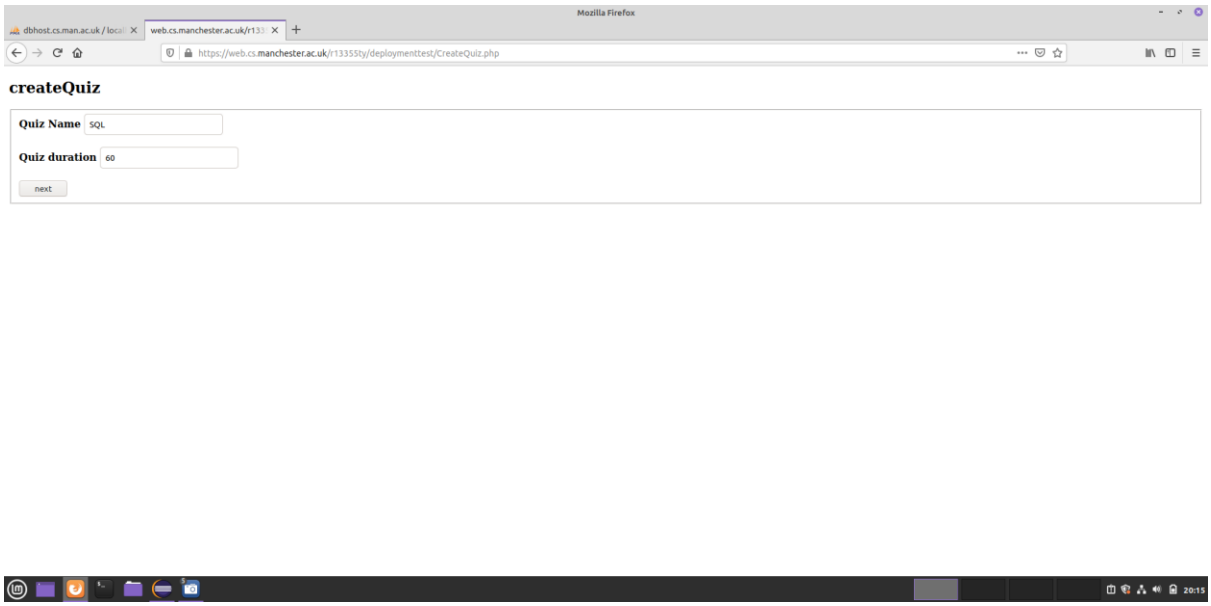


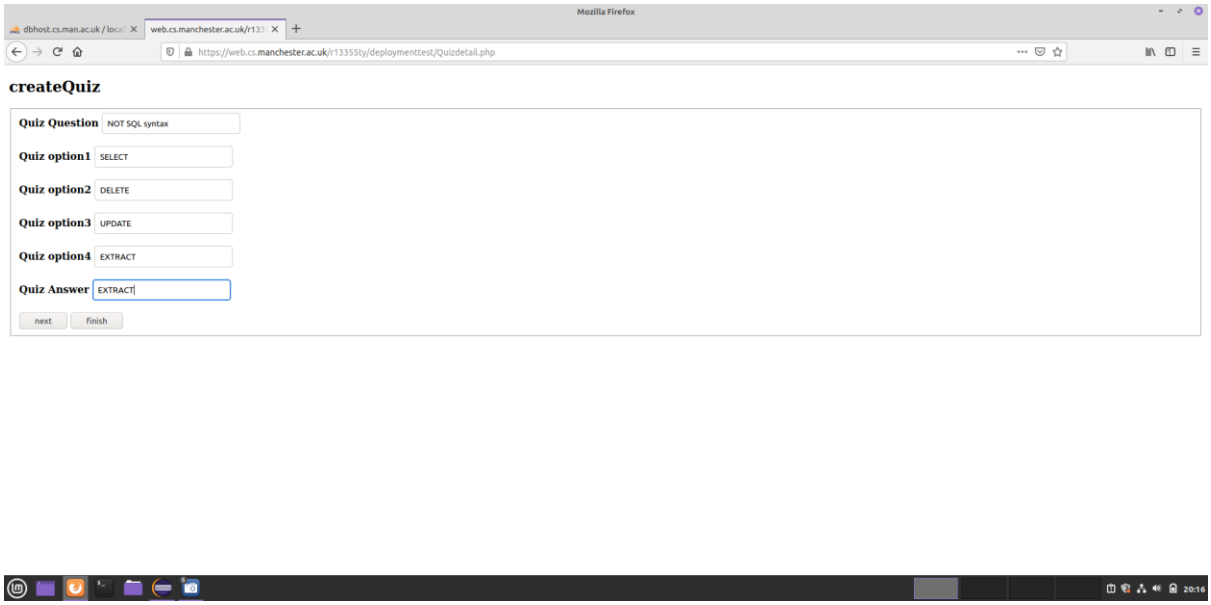


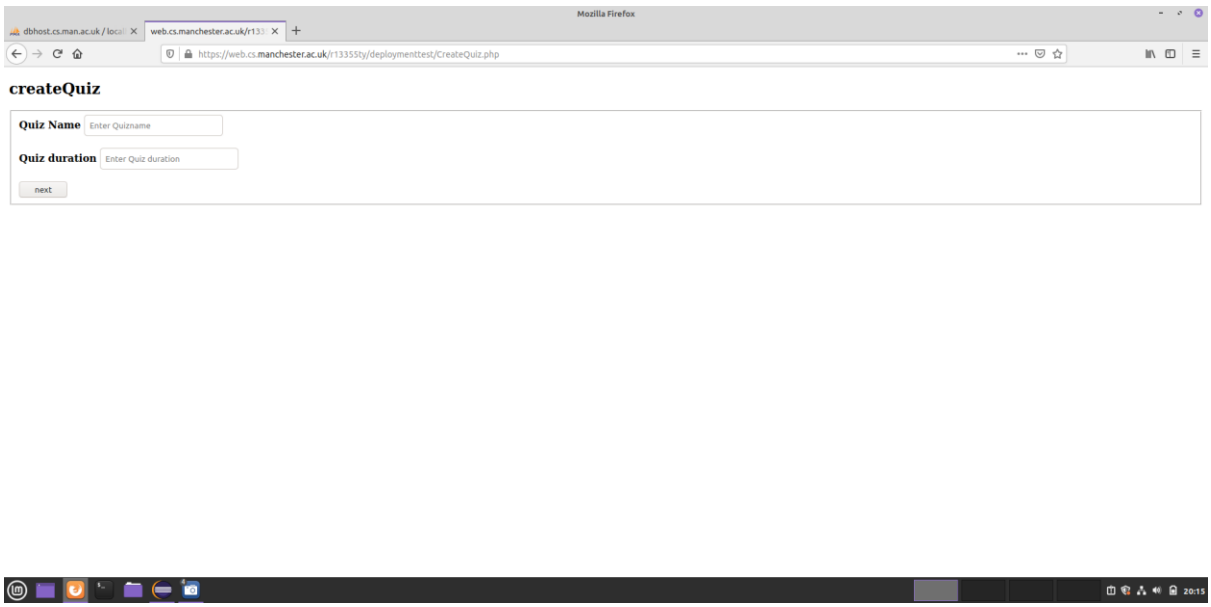
If user log in as staff account, user can create Quiz, delete or edit the quiz.

When creating quiz, It ask Quiz name and Quiz duration first, and user can put Quiz name, Quiz options and Quiz Answer at the same time. There are buttons which are next and finish, if user want to put more quizzes then press next. If not, user can just finish the creating quiz.


Mozilla Firefox
https://web.cs.manchester.ac.uk/r13355ty/deploymenttest/Quiz.php
Quiz
CreateQuiz
SQL delete edit
FOL delete edit
kdslknldkcnlk delete edit


Mozilla Firefox
https://web.cs.manchester.ac.uk/r13355ty/deploymenttest/CreateQuiz.php
createQuiz
Quiz Name SQL
Quiz duration 60
next

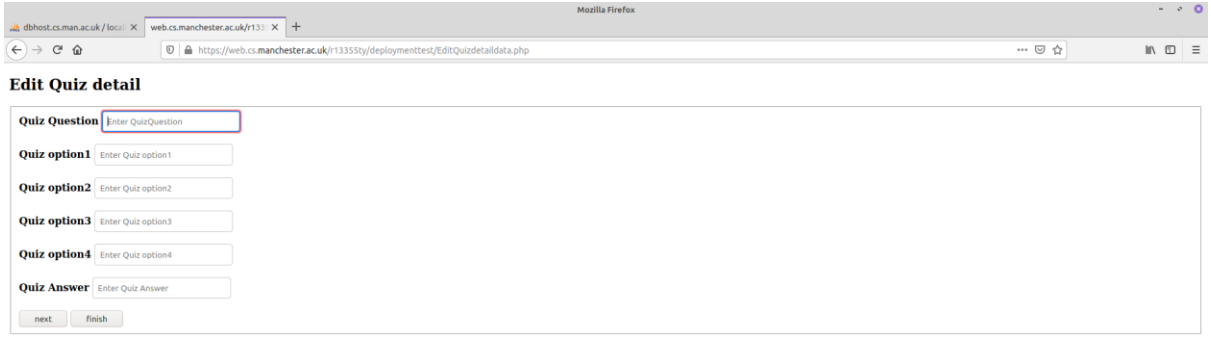


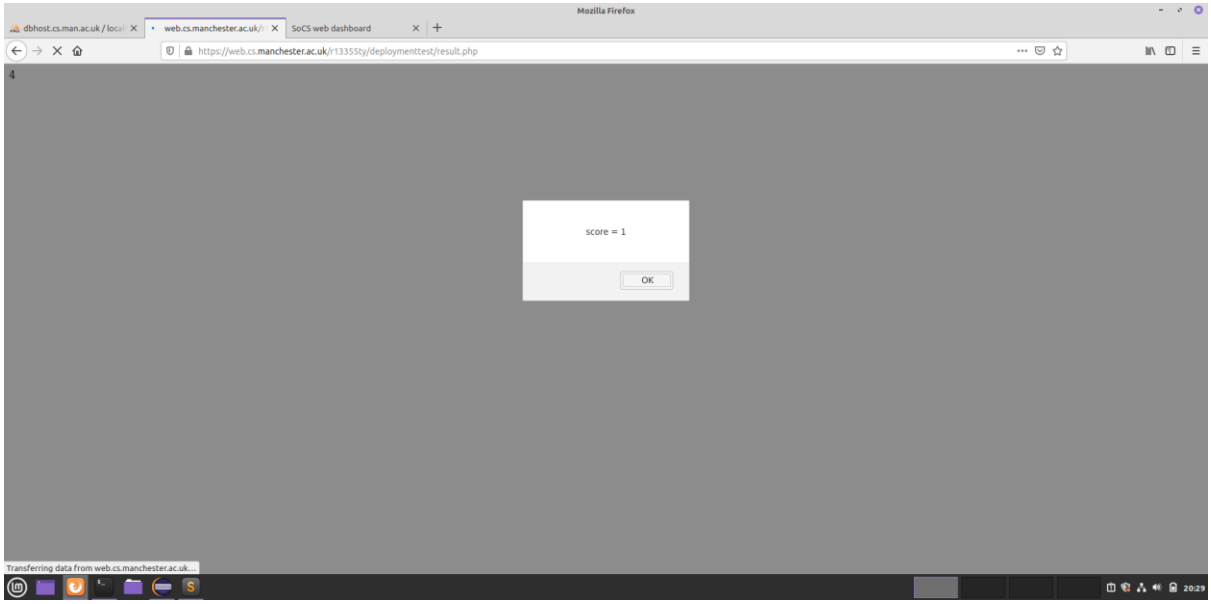


When user edit quiz, It has a same form as when the Quizzes are created.

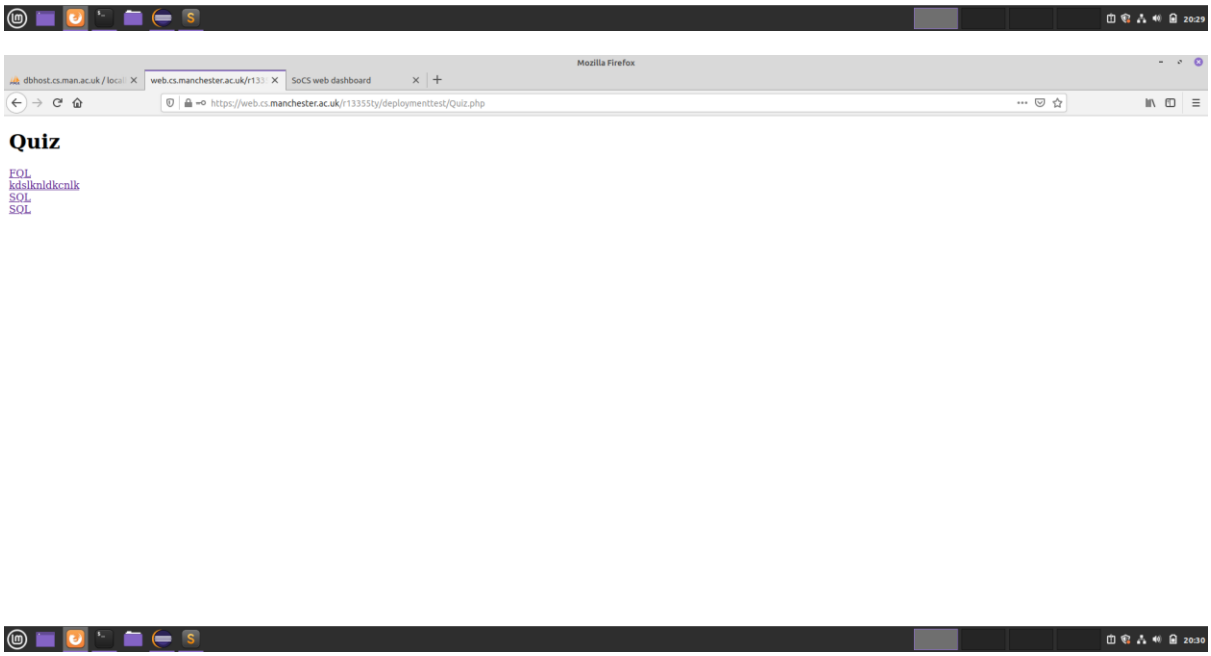

Mozilla Firefox
https://web.cs.manchester.ac.uk/r13355ty/deploymenttest/Quiz.php
Quiz
CreateQuiz
FOL delete edit
kdslknldkcnlk delete edit


Mozilla Firefox
https://web.cs.manchester.ac.uk/r13355ty/deploymenttest/EditQuiz.php?QuizID=6
EditQuiz
Quiz Name Enter Quizname
Quiz duration Enter Quiz duration
next


Mozilla Firefox
https://web.cs.manchester.ac.uk/r13355ty/deploymenttest/EditQuizdetaildata.php
Edit Quiz detail
Quiz Question Enter QuizQuestion
Quiz option1 Enter Quiz option1
Quiz option2 Enter Quiz option2
Quiz option3 Enter Quiz option3
Quiz option4 Enter Quiz option4
Quiz Answer Enter Quiz Answer
next
finish



When User try to solve quiz, It shows Questions and options and User can choose options they think right. When It finishes, user can submit their answers and as soon It shows the score they've got. After taking Quiz Once, They can't take again but It shows User's score.



This is homepage for student which doesn't have any create quiz, delete and edit Quiz function.

It only shows list of quizzes and students can take the quizzes.

Part E

1. Procedure

```
CREATE PROCEDURE GRADE

AS

SELECT Memeber.forename,Memeber.surname,QUIZtable.score FROM Memeber JOIN QUIZtable ON Memeber.Member_ID == QUIZtable.Member_ID WHERE ((INT)QUIZtable.score / COUNT(score)) < 0.4

Go;
```

2. Trigger

```
CREATE TRIGGER QUIZ

ON DATABASE

BEFORE DELETE QuizID

BEGIN

SELECT Memeber_ID,QuizID FROM QUIZtable WITH CURRENT_DATE ,CURRENT_TIME

END
```