CREATE A CRUD PROJECT USING CORE PYTHON AND MYSQL TO GENERATE A QUIZ GAME APP

INTRODUCTION:

A quiz game is a program that presents a series of questions to the user and evaluates their answers to determine their score. Quiz games can be used for educational or entertainment purposes, and can be designed to test a wide variety of knowledge, including general knowledge, trivia, or specialized information.

In Python, you can use a variety of libraries and techniques to create a quiz game. One common approach is to use a text-based user interface (TUI) to present the questions and accept the user's answers. This can be accomplished using the built-in **input ()** function to prompt the user for their answer, and the **print ()** function to display the questions and other information to the user.

You can also use databases such as MySQL to store the questions and answers, and use the SQL statements to retrieve and update the information for the Quiz game program. By doing so, you can easily add new questions and answers to the database, and even retrieve random question from the database to make it more interesting.

FEATURES:

- Teachers can add questions in the Quiz App.
- Teachers can view all the questions in the Quiz App.
- Teachers can delete all the questions in the Quiz App.
- Teachers can view student scores in the Quiz App.
- Students can answer the questions in the Quiz App.
- Students can view answers for the questions in the Quiz App.

PACKAGES USED:

- Pymysql – This package contains a pure-Python MYSQL client library.
- Tabulate – This package is used to create tables.

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FILES USED:

- Quiz Game.py
- Mysql query.sql

HOW TO RUN THE QUIZ PROGRAM?

- To run the Python MySQL quiz program in the command prompt, you will need to have python and mysql-connector-python/pymysql library installed on your system.
- You can check if you have these installed by running the following commands in the command prompt:
    - python --version
    - pip list
- You should see the version of Python that is currently installed, and the list of libraries that are available to your Python installation. If mysql-connector-python/pymysql is not in the list, you can install it using pip by running the following command:
    - pip install mysql-connector-python
- Once you have Python and the mysql-connector-python/pymysql library installed, you can run the quiz program by navigating to the directory where the program is saved, and then entering the command:
    - python Quiz Game.py
- This will start the program, which will connect to the MySQL database, retrieve the questions and start the quiz game.

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WELCOME TO THE QUIZ GAME

TEACHER DETAILS:

1. SIGN UP:

If you are a new user, sign up for your account.

```
*****Welcome to the Quiz Game*****
1.Teacher
2.Student
3.Exit
Enter the choice number : 1
1.Login          2.Signup        3.Exit
Enter the choice number : 2
Enter the username : Admin
Enter the password : 1234
```

2. LOGIN:

If you are an existing user, then login into your account.

If your login credentials are wrong it will show up invalid user.

```
*****Welcome to the Quiz Game*****
1.Teacher
2.Student
3.Exit
Enter the choice number : 1
1.Login          2.Signup        3.Exit
Enter the choice number : 1
Enter the username : Admin
Enter the password : 1234
Login Successfully
```

```
*****Welcome to the Quiz Game*****
1.Teacher
2.Student
3.Exit
Enter the choice number : 1
1.Login          2.Signup        3.Exit
Enter the choice number : 1
Enter the username : Admin
Enter the password : 123
Invalid User
```

3. ADD QUESTIONS:

```
1.Add Questions
2.View Questions
3.Delete all questions
4.Exit
Enter the choice number : 1
Enter the question : What is a correct syntax to output "Hello World" in Python?
Enter the option 1 : echo "Hello World"
Enter the option 2 : p("Hello World")
Enter the option 3 : print("Hello World")
Enter the option 4 : echo("Hello World");
Enter the answer (option number) : 3
Do you want to add more questions?
1.Yes   2.No
Enter the choice number : 1
Enter the question : How do you insert COMMENTS in Python code?
Enter the option 1 : #This is a comment
Enter the option 2 : //This is a comment
Enter the option 3 : /*This is a comment*/
Enter the option 4 : <!--This is a comment-->
Enter the answer (option number) : 1
Do you want to add more questions?
1.Yes   2.No
Enter the choice number : 1
Enter the question : Which one is NOT a legal variable name?
Enter the option 1 : Myvar
Enter the option 2 : my-var
Enter the option 3 : _myvar
Enter the option 4 : my_var
Enter the answer (option number) : 2
```

4. VIEW QUESTIONS:

```
1.Add Questions
2.View Questions
3.Delete all questions
4.Exit
Enter the choice number : 2
1.What is a correct syntax to output "Hello World" in Python?
Option 1 :  echo "Hello World"
Option 2 :  p("Hello World")
Option 3 :  print("Hello World")
Option 4 :  echo("Hello World");
Answer : 3

2.How do you insert COMMENTS in Python code?
Option 1 :  #This is a comment
Option 2 :  //This is a comment
Option 3 :  /*This is a comment*/
Option 4 :  <!--This is a comment-->
Answer : 1

3.Which one is NOT a legal variable name?
Option 1 :  Myvar
Option 2 :  my-var
Option 3 :  _myvar
Option 4 :  my_var
Answer : 2
```

5. DELETE ALL QUESTIONS:

```
1.Add Questions
2.View Questions
3.Delete all questions
4.Exit
Enter the choice number : 3
Are you sure you want to delete all questions?
1.Yes   2.No
Enter the choice number : 1
Deleted all questions successfully
```

6. STUDENT SCORES:

```
1.Question Details
2.Student Scores
3.Exit
Enter the choice number : 2
```

Student Name	Score
Akshayaa	10
Aalish	7
Nayeem	7
Balaji	6
Aravind	9

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STUDENT DETAILS:

1. PLAY QUIZ:

```
*****Welcome to the Quiz Game*****
1.Teacher
2.Student
3.Exit
Enter the choice number : 2
Do you want to play?
1.Yes    2.No
Enter the choice number : 1
Enter the username : Akshayaa
Enter the password : abcd
Read the following questions carefully.
You have only one chance to answer the questions.
Answer all the questions.
Enter the option number for answer.
All the best!
1.What is a correct syntax to output 'Hello World' in Python?
Option 1 :  echo('Hello World');
Option 2 :  p('Hello World')
Option 3 :  print('Hello World')
Option 4 :  echo'Hello World'
Answer : 3
Correct Answer!
2.How do you insert COMMENTS in Python code?
Option 1 :  #This is a comment
Option 2 :  //This is a comment
Option 3 :  /*This is a comment*/
Option 4 :  <!--This is a comment-->
Answer : 1
Correct Answer!
```

Students can see if they answered correct or not at the end of the each questions.

```
5.What is the correct syntax to output the type of a variable or object in Python?
Option 1 :  print(typeof x)
Option 2 :  print(type(x))
Option 3 :  print(typeof(x))
Option 4 :  print(typeOf(x))
Answer : 3
Wrong Answer!
6.Which method can be used to return a string in upper case letters?
Option 1 :  toUpperCase()
Option 2 :  uppercase()
Option 3 :  upperCase()
Option 4 :  upper()
Answer : 2
Wrong Answer!
```

Students can see their scores.

```
10.Which statement is used to stop a loop?
Option 1 :  stop
Option 2 :  exit
Option 3 :  return
Option 4 :  break
Answer : 4
Correct Answer!
Your Score : 10/10
```

2. VIEW ANSWERS:

```
Your Score : 10/10
Do you want want view answers?
1.Yes    2.No
Enter the choice number : 1
1.What is a correct syntax to output 'Hello World' in Python?
Option 1 :  echo('Hello World');
Option 2 :  p('Hello World')
Option 3 :  print('Hello World')
Option 4 :  echo'Hello World'
Answer : 3

2.How do you insert COMMENTS in Python code?
Option 1 :  #This is a comment
Option 2 :  //This is a comment
Option 3 :  /*This is a comment*/
Option 4 :  <!--This is a comment-->
Answer : 1

3.Which one is NOT a legal variable name?
Option 1 :  my_var
Option 2 :  my-var
Option 3 :  Myvar
Option 4 :  _myvar
Answer : 2
```

CONCLUSION:

Successfully developed the Quiz Game using PYTHON and MYSQL.

Overall, creating a quiz game in Python is a great way to practice and improve your programming skills while creating an engaging and useful application.

Source Code:

Python code

```
#Quiz Game

import pymysql

from tabulate import tabulate


try:

   connection = pymysql.connect(host="localhost", user="root", password='', db="QuizGame")

   cursor = connection.cursor()


   class Teacher:

      def signup(self):

         self.username = input("Enter the username : ")

         self.password = input("Enter the password : ")

         column = (self.username,self.password)

         cmd = "insert into teacher(username,password) values(%s,%s)"

         cursor.execute(cmd,column)

         teacher.after_login()


      def login(self):

         self.username = input("Enter the username : ")

         self.password = input("Enter the password : ")

         cmd = "select * from teacher where username='%s' and password='%s'"

                  %(self.username,self.password)

         cursor.execute(cmd)
```

```
        data = cursor.fetchall()
        if len(data) > 0:
            print("Login Successfully")
            teacher.after_login()
        else:
            print("Invalid User")

    def after_login(self):
        print("1.Question Details \n2.Student Scores \n3.Exit")
        ch = int(input("Enter the choice number : "))
        if ch==1:
            teacher.question_details()
        elif ch == 2:
            teacher.student_scores()

    def question_details(self):
        print("1.Add Questions \n2.View Questions \n3.Delete all questions \n4.Exit")
        ch = int(input("Enter the choice number : "))
        if ch == 1:
            teacher.add_question()
        elif ch == 2:
            teacher.view_question()
        elif ch == 3:
            teacher.deleteall_question()
        else:
            teacher.after_login()
```

```
def add_question(self):
    self.question = input("Enter the question : ")
    self.opt_a = input("Enter the option 1 : ")
    self.opt_b = input("Enter the option 2 : ")
    self.opt_c = input("Enter the option 3 : ")
    self.opt_d = input("Enter the option 4 : ")
    self.answer = int(input("Enter the answer (option number) : "))
    column = (self.question,self.opt_a,self.opt_b,self.opt_c,self.opt_d,self.answer)
    cmd = "insert into questions(question,opt_a,opt_b,opt_c,opt_d,answer) values
            (%s,%s,%s,%s,%s,%s)"
    cursor.execute(cmd,column)
    print("Do you want to add more questions? ")
    print("1.Yes\t2.No")
    ch = int(input("Enter the choice number : "))
    if ch == 1:
        teacher.add_question()
    else:
        teacher.question_details()

def view_question(self):
    cmd = "select * from questions"
    cursor.execute(cmd)
    data = cursor.fetchall()
    for row in data:
        print("{}.{}".format(row[0],row[1]))
        print("Option 1 : ",row[2])
```

```
            print("Option 2 : ",row[3])
            print("Option 3 : ",row[4])
            print("Option 4 : ",row[5])
            print("Answer :",row[6])
            print()
        teacher.question_details()

    def deleteall_question(self):
        print("Are you sure you want to delete all questions?")
        print("1.Yes\t2.No")
        confirmation = int(input("Enter the choice number : "))
        if (confirmation == 1):
            cmd = "truncate table questions"
            cursor.execute(cmd)
            print("Deleted all questions successfully")
        teacher.question_details()

    def student_scores(self):
        cmd = "select username,score from student"
        cursor.execute(cmd)
        data = cursor.fetchall()
        headers = ["Student Name","Score"]
        print(tabulate(data, headers, tablefmt="fancy_grid",numalign="center", stralign="center"))
        teacher.after_login()
```

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```
class Student:
    def login(self):
        self.username = input("Enter the username : ")
        self.password = input("Enter the password : ")
        column = (self.username,self.password)
        cmd = "insert into student(username,password) values(%s,%s)"
        cursor.execute(cmd,column)

    def instructions(self):
        print("Read the following questions carefully.")
        print("You have only one chance to answer the questions.")
        print("Answer all the questions.")
        print("Enter the option number for answer.")
        print("All the best!")

    def question(self):
        cmd = "select * from questions"
        cursor.execute(cmd)
        data = cursor.fetchall()
        self.mark = 0
        self.noq = 0
        for row in data:
            self.noq += 1
            print("{}.{}".format(row[0],row[1]))
            print("Option 1 : ",row[2])
            print("Option 2 : ",row[3])
```

```
        print("Option 3 : ",row[4])
        print("Option 4 : ",row[5])
        self.ans = int(input("Answer : "))
        if self.ans == row[6]:
            self.mark+=1
            print("Correct Answer!")
        else:
            print("Wrong Answer!")

    def score(self):
        cmd = "update student set score='%s' where username='%s'" %(self.mark,self.username)
        cursor.execute(cmd)
        print("Your Score : {}/{}".format(self.mark,self.noq))

    def viewans(self):
        cmd = "select * from questions"
        cursor.execute(cmd)
        data = cursor.fetchall()
        for row in data:
            print("{}.{}".format(row[0],row[1]))
            print("Option 1 : ",row[2])
            print("Option 2 : ",row[3])
            print("Option 3 : ",row[4])
            print("Option 4 : ",row[5])
            print("Answer :",row[6])
            print()
```

```
teacher = Teacher()
student = Student()


while True:
    print("*****Welcome to the Quiz Game*****")
    print("1.Teacher \n2.Student \n3.Exit")
    choice = int(input("Enter the choice number : "))
    if choice==1:
        print("1.Login \t 2.Signup \t 3.Exit")
        ch = int(input("Enter the choice number : "))
        if ch == 1:
            teacher.login()
        elif ch == 2:
            teacher.signup()
        else:
            break


    if choice==2:
        print("Do you want to play?")
        print("1.Yes \t 2.No")
        ch = int(input("Enter the choice number : "))
        if ch == 1:
            student.login()
            student.instructions()
            student.question()
            student.score()
```

```
            print("Do you want want view answers?")
            print("1.Yes \t 2.No")
            ch = int(input("Enter the choice number : "))
            if ch == 1 :
               student.viewans()
               print("*****Thank You*****")
            else:
               print("*****Thank You*****")
         else:
            break

      else:
         break

   connection.commit()
   connection.close()

except (Exception) as ex:
   print(ex.__class__, ex.args)
   print("Oops! Something went wrong")
```

Mysql query

```
#Quiz Game

create database QuizGame;

use QuizGame;


create table teacher(sno tinyint primary key auto_increment,

username varchar(20),password varchar(20));


create table student(sno tinyint primary key auto_increment,

username varchar(20),password varchar(20),score tinyint);


create table questions (qno tinyint primary key auto_increment,

question varchar(100),opt_a varchar(50),opt_b varchar(50),

opt_c varchar(50),opt_d varchar(50),answer tinyint);
```