

VIDHYA NIKETAN

PUBLIC SCHOOL



PROJECT ON

QUIZ MASTER

2020-2021

SUBMITED BY: SRINITA J S

EXAM NO:

CLASS: XII - A

DECLARATION

I declare that this project titled “**QUIZ MASTER**” done at VIDHYA NIKETAN PUBLIC SCHOOL is a record of project submitted by me for the partial fulfillment of AISSCE exam of CBSE under the supervision and guidance of Mrs. M.DHIVYA.

This Project is genuine and is not a reproduction of any other project previously submitted.

ACKNOWLEDGEMENT

I extend my sincere thanks to VIDHYA NIKETAN PUBLIC SCHOOL which provided me the opportunity to fulfill my goal. I would like to express my deep debt to our computer science teacher Mrs. M.DHIVYA who has helped me get the best out of the available resources and guided me throughout my project.

On a moral personal note, I express my deepest appreciation and gratitude to my beloved parents who have relentlessly supported me through out.



Learn Grow Excel

**VIDHYANIKETAN PUBLIC SCHOOL
COIMBATORE**

CERTIFICATE

This is to certify that **SRINITA J S** has completed her project work as a part of the paper of computer science with python (083) , under my supervision and guidance in the Department of science. To the best of my knowledge it is an original piece of work and is worthy of consideration in partial fulfillment of the requirement of CBSE, for the award of Senior School Certificate in science.

Date :

Place: Coimbatore

Name of the Teacher:
Mrs. M.Dhivya

Signature:

Name of the External Examiner:

Signature:

.....

Name of the Principal:

Signature:

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ABSTRACT

OBJECTIVE:

This project titled QUIZ MASTER is a web application for you to check your learning process and test your skills.

The aim is to automate the existing manual system by the help of computerized equipments and full fledged computer software , fullfilling their requirements , so that their valuable data / information is stored for longer period , easily available and easy to work with.

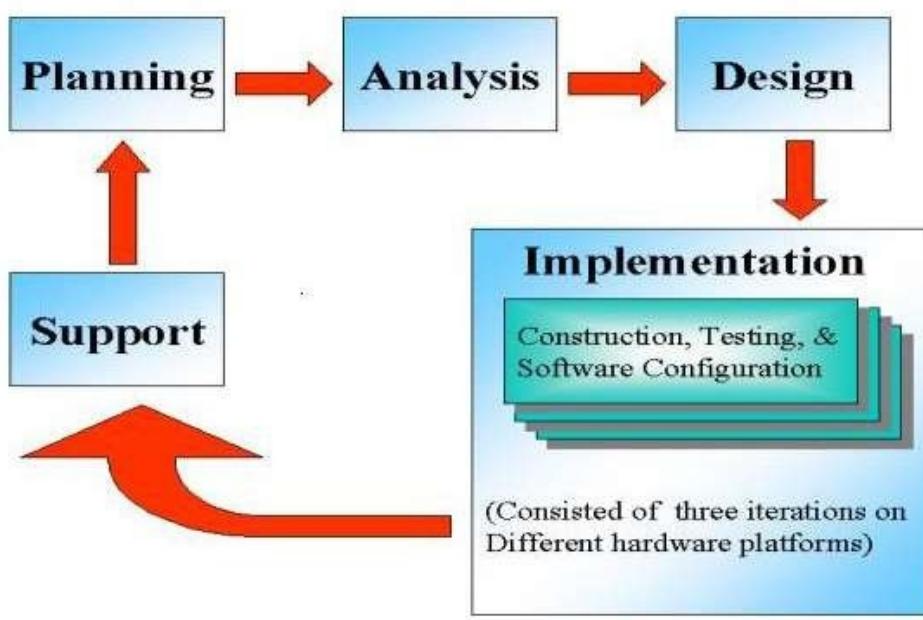
Quiz master application can lead to error free,secure , reliable and fast management system.It helps to store data in an organised way.,

There are different categories and each category takes the user through a series of questions which are MCQ'S with few options containing one correct answer

PROPOSED SYSTEM:

- The user should login by entering the username and password in the login panel which appears .
- Score of the user is displayed immediately after the user finishes the quiz and also stores it in the database.
- The date time module is used to set a timer for the whole program.
- There are also alert message boxes appearing in the starting and end of the quiz
- The user can use the review option in the scorepage to view the answers

SYSTEM DEVELOPMENT LIFE CYCLE (SDLC)



The systems development life cycle is a project management technique that divides complex projects into smaller, more easily managed segments or phases. Segmenting projects allows managers to verify the successful completion of project phases before allocating resources to subsequent phases.

Software development projects typically include initiation, planning, design, development, testing, implementation, and maintenance phases. However, the phases may be divided differently depending on the organization involved.

For example, initial project activities might be designated as request, requirements-definition, and planning phases, or initiation, concept-development, and planning phases. End users of the system under development should be involved in reviewing the output of each phase to ensure the system is being built to deliver the needed functionality.

PHASES OF SYSTEM DEVELOPMENT LIFE CYCLE

INITIATION PHASE

The Initiation Phase begins when a business sponsor identifies a need or an opportunity. The purpose of the Initiation Phase is to:

- Identify and validate an opportunity to improve business accomplishments of the organization or a deficiency related to a business need.
- Identify significant assumptions and constraints on solutions to that need.
- Recommend the exploration of alternative concepts and methods to satisfy the need including questioning the need for technology, i.e., will a change in the business process offer a solution?
- Assure executive business and executive technical sponsorship. The Sponsor designates a Project Manager and the business need is documented in a Concept Proposal. The Concept Proposal includes information about the business process and the relationship to the Agency/Organization.
- Infrastructure and the Strategic Plan. A successful Concept Proposal results in a Project Management Charter which outlines the authority of the project manager to begin the project.

Careful oversight is required to ensure projects support strategic business objectives and resources are effectively implemented into an organization's enterprise architecture. The initiation phase begins when an opportunity to add, improve, or correct a system is identified and formally requested through the presentation of a business case. The business case should, at a minimum, describe a proposal's purpose, identify expected benefits, and explain how the proposed system supports one of the organization's business strategies. The business case should also identify alternative solutions and detail as many informational, functional, and network requirements as possible.

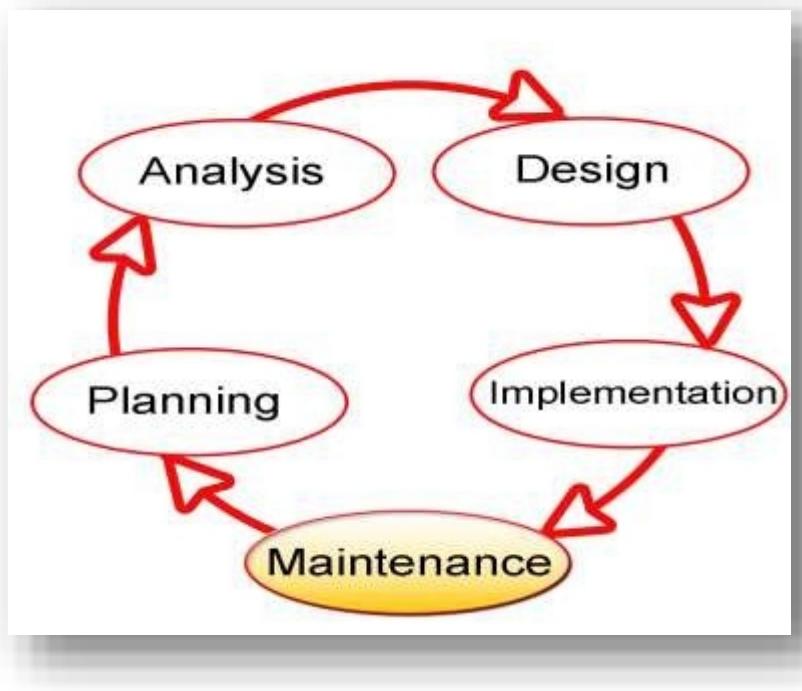
SYSTEM CONCEPT DEVELOPMENT PHASE

The System Concept Development Phase begins after a business need or opportunity is validated by the Agency/Organization Program Leadership and the Agency/Organization CIO.

The purpose of the System Concept Development Phase is to:

- Determine the feasibility and appropriateness of the alternatives. Identify system interfaces.
- Identify basic functional and data requirements to satisfy the business need. Establish system boundaries; identify goals, objectives, critical success factors, and performance measures.
- Evaluate costs and benefits of alternative approaches to satisfy the basic functional requirements
- Assess project risks
- Identify and initiate risk mitigation actions, and develop high-level technical architecture, process models, data models, and a concept of operations. This phase explores potential technical solutions within the context of the business need.
- It may include several trade-off decisions such as the decision to use COTS software products as opposed to developing custom software or reusing software components, or the decision to use an incremental delivery versus a complete, onetime deployment.
- Construction of executable prototypes is encouraged to evaluate technology to support the business process. The System Boundary Document serves as an important reference document to support the Information Technology Project Request (ITPR) process.
- The ITPR must be approved by the State CIO before the project can move forward.

PICTORIAL REPRESENTATION OF SDLC:



PLANNING PHASE

The planning phase is the most critical step in completing development, acquisition, and maintenance projects. Careful planning, particularly in the early stages of a project, is necessary to coordinate activities and manage project risks effectively. The depth and formality of project plans should be commensurate with the characteristics and risks of a given project. Project plans refine the information gathered during the initiation phase by further identifying the specific activities and resources required to complete a project.

A critical part of a project manager's job is to coordinate discussions between user, audit, security, design, development, and network personnel to identify and document as many functional, security, and network requirements as possible. During this phase, a plan is developed that documents the approach to be used and includes a discussion of methods, tools, tasks, resources, project schedules, and user input. Personnel assignments, costs, project schedule, and target dates are established.

A Project Management Plan is created with components related to acquisition planning, configuration management planning, quality assurance planning, concept

Of operations, system security, verification and validation, and systems engineering management planning.

REQUIREMENTS ANALYSIS PHASE

This phase formally defines the detailed functional user requirements using high-level requirements identified in the Initiation, System Concept, and Planning phases. It also delineates the requirements in terms of data, system performance, security, and maintainability requirements for the system. The requirements are defined in this phase to a level of detail sufficient for systems design to proceed. They need to be measurable, testable, and relate to the business need or opportunity identified in the Initiation Phase. The requirements that will be used to determine acceptance of the system are captured in the Test and Evaluation Master Plan.

The purposes of this phase are to:

- Further define and refine the functional and data requirements and document them in the Requirements Document,
- Complete business process reengineering of the functions to be supported (i.e., verify what information drives the business process, what information is generated, who generates it, where does the information go, and who processes it),
- Develop detailed data and process models (system inputs, outputs, and the process).
- Develop the test and evaluation requirements that will be used to determine acceptable system performance.

DESIGN PHASE

The design phase involves converting the informational, functional, and network requirements identified during the initiation and planning phases into unified design specifications that developers use to script programs during the development phase. Program designs are constructed in various ways. Using a top-down approach, designers first identify and link major program components and interfaces, then expand design layouts as they identify and link smaller subsystems and

connections. Using a bottom-up approach, designers first identify and link minor program components and interfaces, then expand design layouts as they identify and link larger systems and connections. Contemporary design techniques often use prototyping tools that build mock-up designs of items such as application screens, database layouts, and system architectures. End users, designers, developers, database managers, and network administrators should review and refine the prototyped designs in an iterative process until they agree on an acceptable design. Audit, security, and quality assurance personnel should be involved in the review and approval process. During this phase, the system is designed to satisfy the functional requirements identified in the previous phase. Since problems in the design phase could be very expensive to solve in the later stage of the software development, a variety of elements are considered in the design to mitigate risk. These include:

- Identifying potential risks and defining mitigating design features.
- Performing a security risk assessment.
- Developing a conversion plan to migrate current data to the new system.
- Determining the operating environment.
- Defining major subsystems and their inputs and outputs.
- Allocating processes to resources.
- Preparing detailed logic specifications for each software module. The result is a draft System Design Document which captures the preliminary design for the system.
- Everything requiring user input or approval is documented and reviewed by the user. Once these documents have been approved by the Agency CIO and Business Sponsor, the final System Design Document is created to serve as the Critical/Detailed Design for the system.
- This document receives a rigorous review by Agency technical and functional representatives to ensure that it satisfies the business requirements. Concurrent with the development of the system design, the Agency Project Manager begins development of the Implementation Plan, Operations and Maintenance Manual, and the Training Plan.

DEVELOPMENT PHASE

The development phase involves converting design specifications into executable programs. Effective development standards include requirements that programmers and other project participants discuss design specifications before programming begins. The procedures help ensure programmers clearly understand program designs and functional requirements. Programmers use various techniques to develop computer programs. The large transaction oriented programs associated with financial institutions have traditionally been developed using procedural programming techniques. Procedural programming involves the line-by-line scripting of logical instructions that are combined to form a program. Effective completion of the previous stages is a key factor in the success of the Development phase. The Development phase consists of:

- Translating the detailed requirements and design into system components. Testing
- individual elements (units) for usability.
- Preparing for integration and testing of the IT system.

INTEGRATION AND TEST PHASE

- Subsystem integration, system, security, and user acceptance testing is conducted during the integration and test phase. The user, with those responsible for quality assurance, validates that the functional requirements, as defined in the functional requirements document, are satisfied by the developed or modified system. OIT Security staff assess the system security and issue a security certification and accreditation prior to installation/implementation.

Multiple levels of testing are performed, including:

- Testing at the development facility by the contractor and possibly supported by end users

- Testing as a deployed system with end users working together with contract personnel
- Operational testing by the end user alone performing all functions. Requirements are traced throughout testing,a final Independent Verification & Validation evaluation is performed and all documentation is reviewedand accepted prior to acceptance of the system.

IMPLEMENTATION PHASE

This phase is initiated after the system has been tested and accepted by the user. In this phase, the system is installed to support the intended business functions. System performance is compared to performance objectives established during the planning phase. Implementation includes user notification, user training, installation of hardware, installation of software onto production computers, and integration of the system into daily work processes. This phase continues until the system is operating in production in accordance with the defined user requirements.

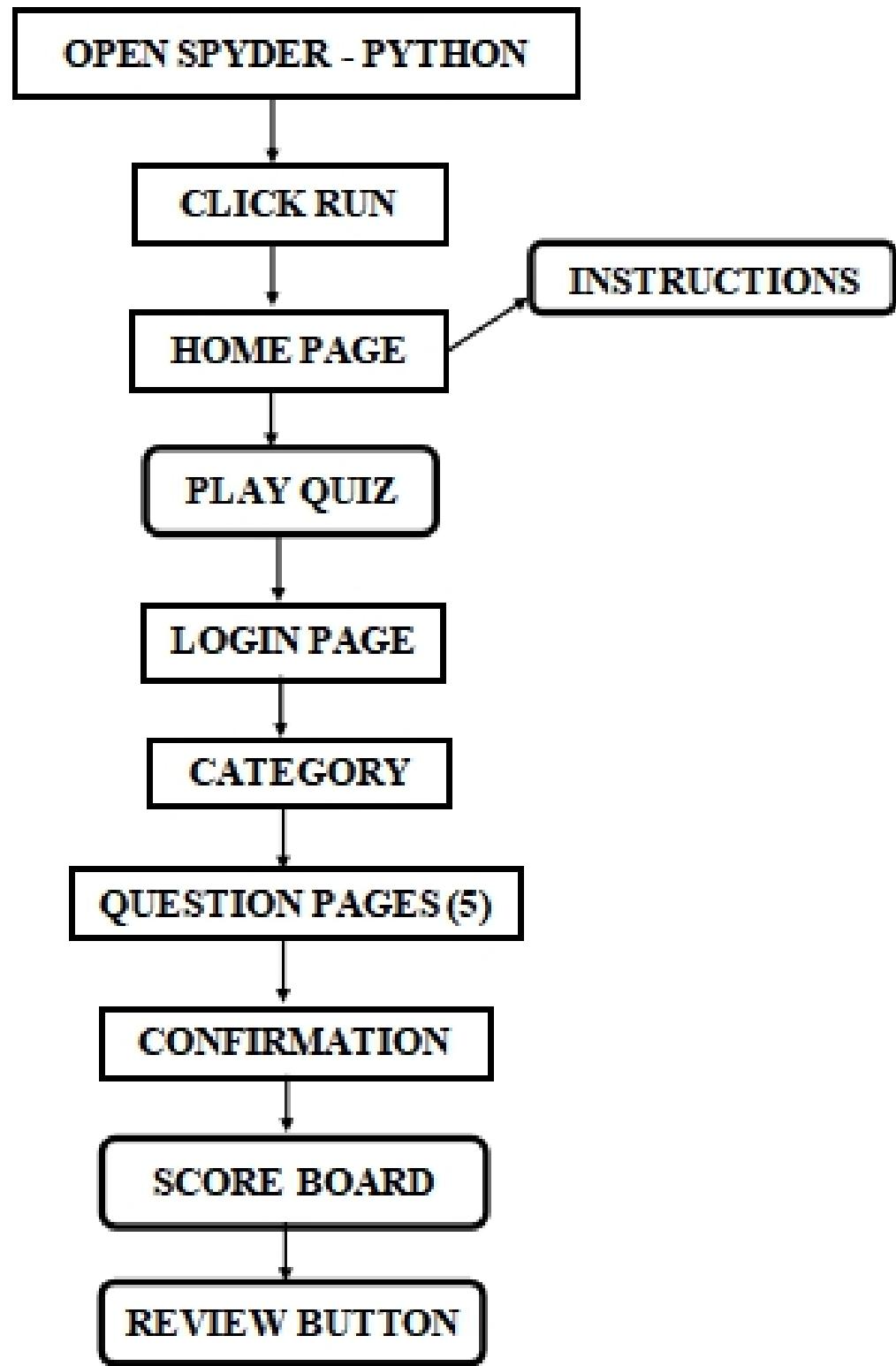
OPERATIONS AND MAINTENANCE PHASE

The system operation is ongoing. The system is monitored for continued performance in accordance with user requirements and needed system modifications are incorporated. Operations continue as long as the system can be effectively adapted to respond to the organization's needs. When modifications or changes are identified, the system may reenter the planning phase.

The purpose of this phase is to:

- Operate, maintain, and enhance the system.
- Certify that the system can process sensitive information.
- Conduct periodic assessments of the system to ensure the functional requirements continue to be satisfied.
- Determine when the system needs to be modernized, replaced, or retired.

FLOW CHART



SYSTEM ANALYSIS

System analysis is a problem-solving technique that decomposes a system into its component pieces for the purpose of studying how well those component parts work and interact to accomplish their purpose. It is also the process of studying a procedure or business in order to identify its goals and purposes and create systems and procedures that will achieve them in an efficient way. Analysis and synthesis, as scientific methods, always go hand in hand, they complement one another. Every synthesis is built upon the results of a preceding analysis, and every analysis requires a subsequent synthesis in order to verify and correct its results.

Our system has the following advantages:

- User friendly interface
- Fast access to database
- Less error
- More storage capacity
- Search facility
- Look and feel environment

FEASIBILITY ANALYSIS

Feasibility is the study of impact which happens in any organization by development of a system. The impact can either be positive or negative. When the positive dominates the negatives, then the system is considered to be feasible. Here the feasibility study can be performed in 2 ways such as:

- **TECHNICAL FEASIBILITY**

Technical feasibility is needed for the development of the software as well as the maintenance of the same is available in the organization. Here we are utilizing the resource which is already available.

- **ECONOMIC FEASIBILITY**

The development of the application is highly economically feasible. The organization need not spend much on the development of the system. So we can attain maximum usability of the corresponding resource.

REQUIREMENTS

MINIMUM HARDWARE REQUIREMENTS

Processor: Pentium IV

RAM: 128 MB

Hard disk: 20GB

Monitor: Any

Keyboard: 122 keys

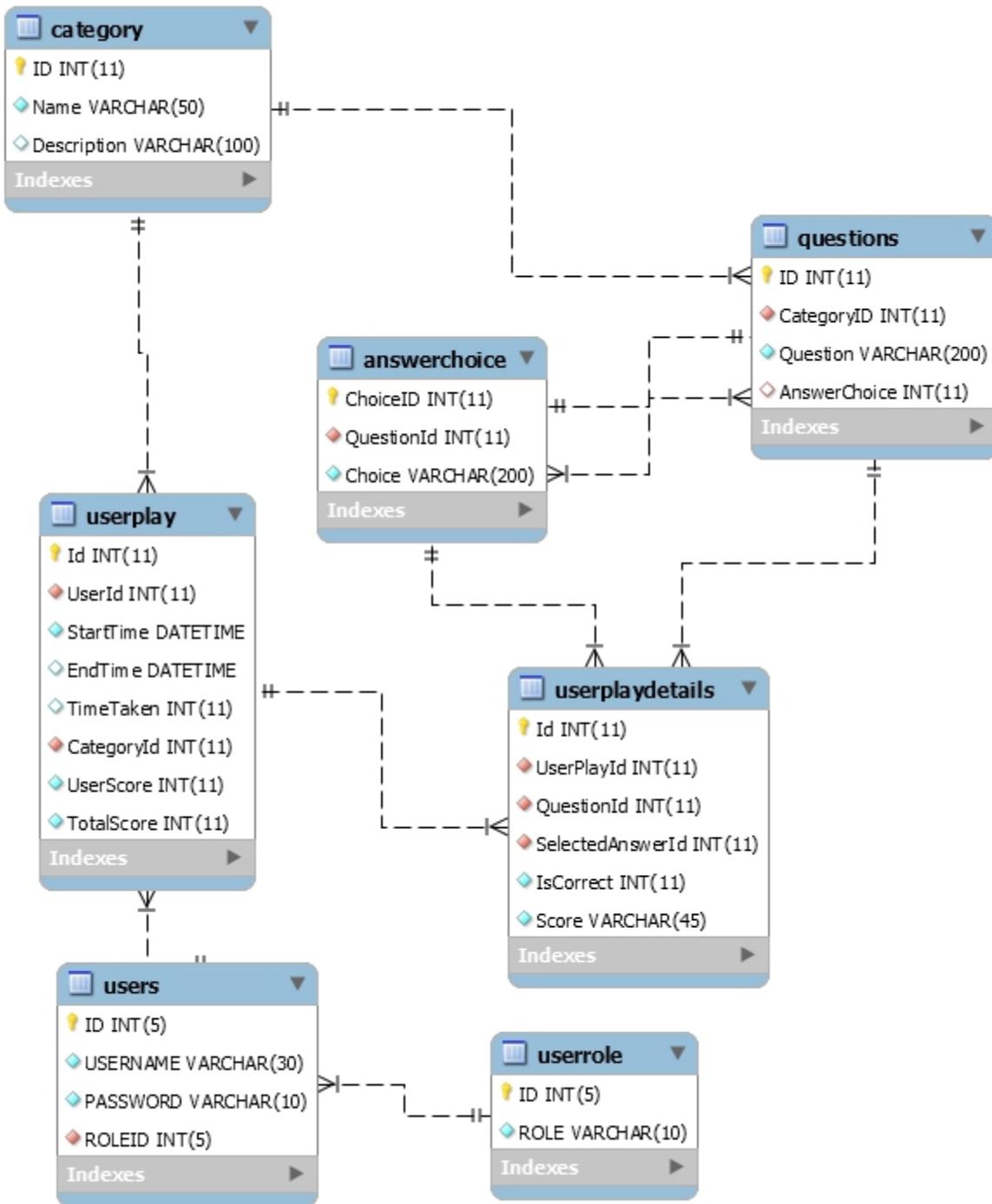
MINIMUM SOFTWARE REQUIREMENTS

Operating System: Windows 10

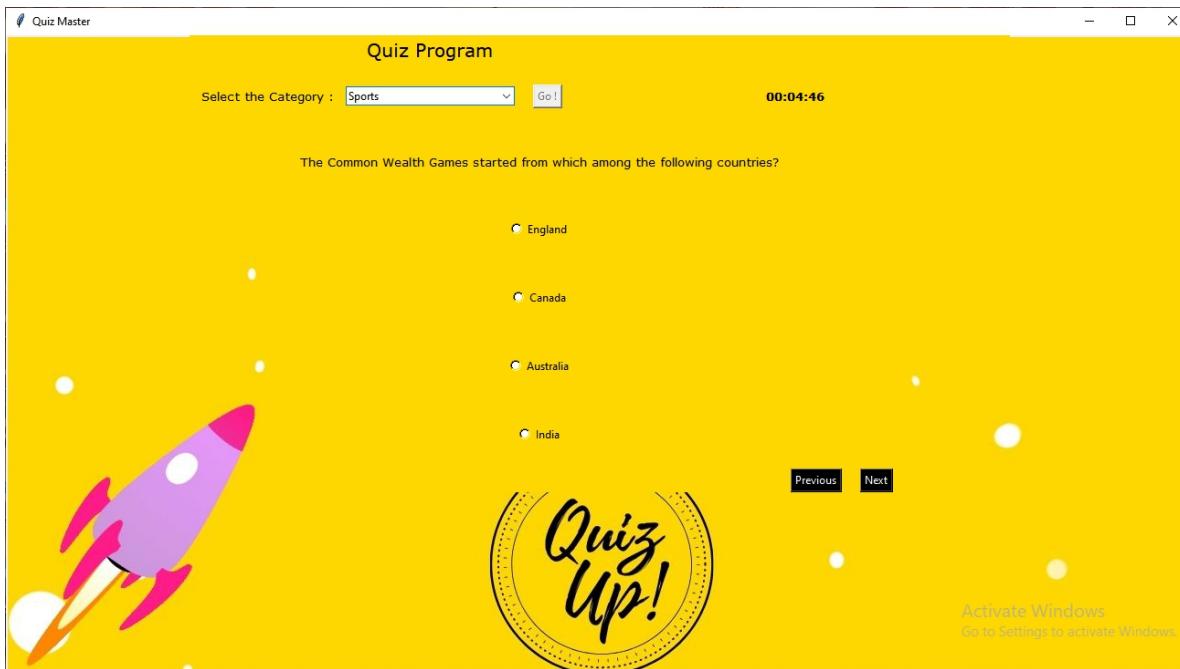
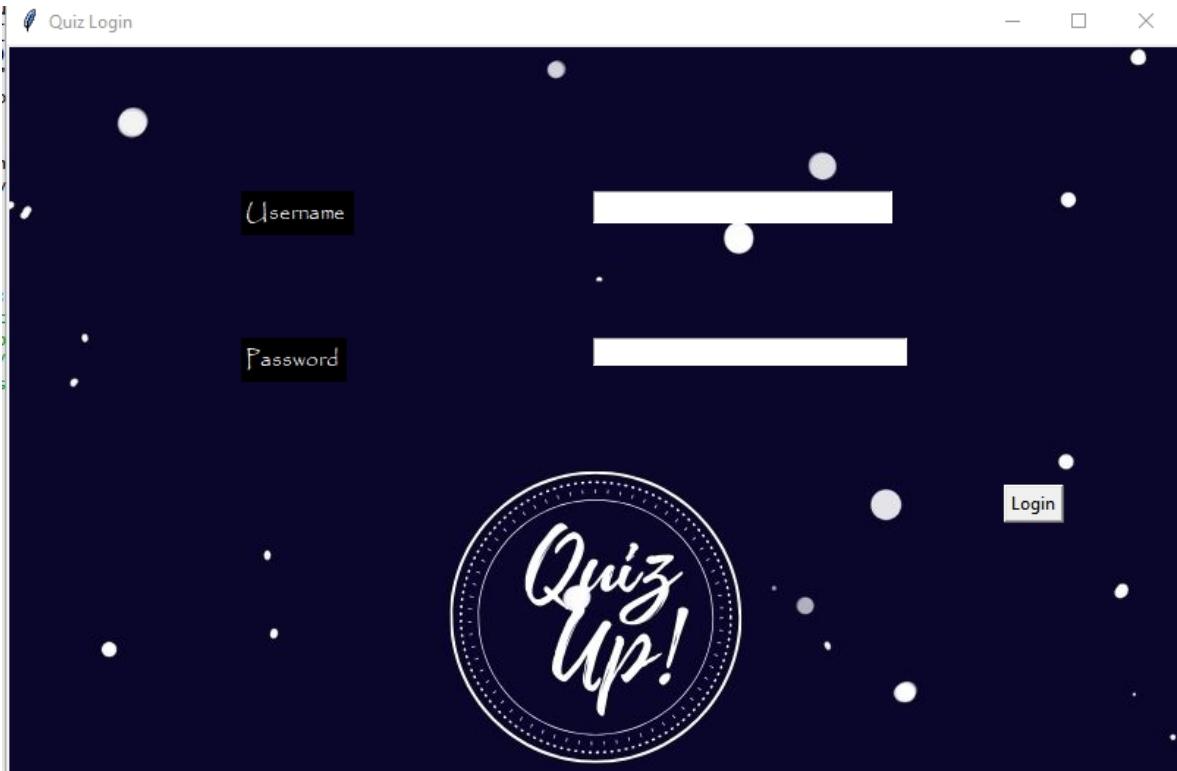
Front end: Spyder - Python

Back end: MySQL Server 5.1

Entity-Relationship (ER) Diagram



INPUT FORM DESIGN



SOURCE CODE

```
import tkinter  
import tkinter.messagebox as alert  
import mysql.connector  
from datetime import datetime  
from PIL import ImageTk,Image
```

```
window=tkinter.Tk()  
window.title('Quiz Master-Home page')  
window.geometry('800x500')  
load=Image.open("home1.JPG")  
render=ImageTk.PhotoImage(load)  
img=tkinter.Label(window,image=render)  
img.place(x=0,y=0)
```

```
topframe =tkinter.Frame(window)  
topframe.pack()  
bottomFrame =tkinter.Frame(window)  
bottomFrame.pack()
```

```
def click_instructions():
```

```
    import tkinter  
  
    mainWindow1 = tkinter.Tk()  
  
    mainWindow1.title('INSTRUCTIONS')  
    mainWindow1.geometry('1100x500')
```

```
rules = """INSTRUCTIONS
1)Choose one of the five topics
2)The duration of quiz is 5 minutes
3)The quiz will consist only objective type MCQs
4)The user should mouse-click their correct choice of the options
5)For every question there will be only one correct option
6)Click on "NEXT" or "PREVIOUS" at the bottom to move to the
next or previous page
7)Questions can be answered in any order in given time
8)After completing all the questions click "FINISH"
"""

```

```
import tkinter
text = tkinter.Text(mainWindow1, height=12, font="lucida 20")
text.insert("1.0", rules)
text.pack()
button = tkinter.Button(mainWindow1, text="Let's GO!", bg="black",
fg="white", font="papyrus 20")
button.pack()
```

```
def login_page():
    window.destroy()
    loginWindow = tkinter.Tk()
    loginWindow.title('Quiz Login')
    loginWindow.geometry('800x500')
    load=Image.open("b6.JPG")
    render=ImageTk.PhotoImage(load)
    img=tkinter.Label(loginWindow,image=render)
    img.place(x=0,y=0)
```

```
Label2=tkinter.Label(loginWindow, text ="Username
",font=('papyrus', 11), background = 'black', foreground ="white" )
Label2.place(relx=0.2,rely=0.2)
```

```

txtUser = tkinter.Entry(loginWindow, font=('verdana', 11))
txtUser.place(relx=0.5,rely=0.2)
Label3=tkinter.Label(loginWindow, text ="Password
",font=('papyrus', 11), background = 'black', foreground ="white" )
Label3.place(relx=0.2,rely=0.4)
txtPassword = tkinter.Entry(loginWindow, width = 35, show='*')
txtPassword.place(relx=0.5,rely=0.4)

def ValidateUser(userid, password):
    mydb = mysql.connector.connect(
        host="localhost",
        user="root",
        passwd="root",
        database="quiz"
    )
    mycursor = mydb.cursor()

    sql = "select id from users where username = %s and password
    = %s "
    mycursor.execute(sql, (userid, password,))
    record = mycursor.fetchall()

    userid = 0
    if mycursor.rowcount > 0:
        for row in record:
            userid = row[0]

    return userid

def Login(userid, password):
    loggedInUserId = ValidateUser(userid, password)
    if loggedInUserId == 0:
        Label4=tkinter.Label(loginWindow, text ="Invalid Username
or Password. ",font=('verdana', 11), background = 'black', foreground
        ="white" )
        Label4.place(relx=0.2,rely=0.6)

```

```
else:  
    loginWindow.destroy()  
    mainWindow = tkinter.Tk()  
    mainWindow.title('Quiz Master')  
    mainWindow.geometry('1300x700')  
  
  
    load=Image.open("y1.jpg")  
    render=ImageTk.PhotoImage(load)  
    img=tkinter.Label(mainWindow,image=render)  
    img.place(x=0,y=0)  
  
    topframe = tkinter.Frame(mainWindow,bg ="gold")  
    topframe.pack();  
    bottomFrame = tkinter.Frame(mainWindow,bg ="gold")  
    bottomFrame.pack()  
  
  
    startDateTime = datetime.now()  
    endDateTime = datetime.now()  
  
    category={}  
    questions={}  
    questionWithAnswer = {}  
  
    questionIndex = 0  
    controls=[]  
    answerRadios=[]  
    selectedAnswers = []  
    var = tkinter.IntVar()  
  
    class SelectedAnswer:  
        def __init__(self, questionId, answerChoiceId):  
            self.questionId = questionId  
            self.answerChoiceId = answerChoiceId  
  
    def ConnectToMySQL():
```

```

mydb = mysql.connector.connect(
    host="localhost",
    user="root",
    passwd="root123",
    database="quiz"
)
return mydb
mydb = ConnectToMySQL()

def GetQuestions(selectedCategoryId):
    mycursor = mydb.cursor()

    sql = "select * from questions where CategoryID = %s "
    mycursor.execute(sql, (str(selectedCategoryId),))
    record = mycursor.fetchall()

    if mycursor.rowcount > 0:
        for row in record:
            questions[row[0]] = row[2]
    else:
        print("Questions not found for the category.")

def GetAnswerChoice(questionId):
    mycursor = mydb.cursor()
    answerchoice={}
    sql = "select * from answerchoice where questionID = %s "
    mycursor.execute(sql, (str(questionId),))
    record = mycursor.fetchall()

    if mycursor.rowcount > 0:
        for row in record:
            answerchoice[row[0]] = row[2]
    else:
        print("Answer choice not found for the question.")
    return answerchoice

```

```

def showResult(score):
    mainWindow.destroy()
    mainWindow1 = tkinter.Tk()
    mainWindow1.title('Quiz Master')
    mainWindow1.geometry('1300x700')

    load=Image.open("y2.jpg")
    render=ImageTk.PhotoImage(load)
    img=tkinter.Label(mainWindow1,image=render)
    img.place(x=0,y=0)

    topframe = tkinter.Frame(mainWindow1,bg ="gold")
    topframe.pack();
    bottomFrame = tkinter.Frame(mainWindow1,bg ="gold")
    bottomFrame.pack()
    lbl1=tkinter.Label(bottomFrame, background = 'gold',
foreground ="black", font = ('verdana', 20, 'bold'), text = " You have
successfully completed the quiz. "
        ).grid(column = 2, row = 2, padx = 50)
    tkinter.Label(bottomFrame, font = ('verdana', 40, 'bold'), text =
"You Score: " + str(score) + " / 5",
                background = 'gold',
                foreground = 'black').grid(column = 2, row = 4, padx = 50)
    btnGo = tkinter.Button(bottomFrame, text = 'Review
Score',bg="black", fg="white",command= Reviewpopup )
    btnGo.grid(column = 2, row = 5, padx = 50)
    tkinter.Label(bottomFrame,background = 'gold', foreground
="black", font = ('verdana', 10, 'bold'), text = "Project done by:"
        ).grid(column = 2, row = 8, padx = 50)
    tkinter.Label(bottomFrame,background = 'gold', foreground
="black", font = ('verdana', 10, 'bold'), text = "SRINITA J.S. (12-A)"
        ).grid(column = 2, row = 9, padx = 50)
    tkinter.Label(bottomFrame,background = 'gold', foreground
="black", font = ('verdana', 10, 'bold'), text = "THANISHA SHIMNAZ
(12-A)"
        ).grid(column = 2, row = 10, padx = 50)

```

```
    tkinter.Label(bottomFrame,background = 'gold', foreground  
 ="black", font = ('verdana', 10, 'bold'), text = "KARSHANA B.G. (12-  
 B)"  
         ).grid(column = 2, row = 11, padx = 50)  
    tkinter.Label(bottomFrame,background = 'gold', foreground  
 ="black", font = ('verdana', 15, 'bold'), text = "Vidhya Niketan Public  
 School"  
         ).grid(column = 2, row = 12, padx = 50)  
    tkinter.Label(bottomFrame,background = 'gold', foreground  
 ="black", font = ('verdana', 10, 'bold'), text = "Coimbatore"  
         ).grid(column = 2, row = 13, padx = 50)  
mainWindow1.mainloop()
```

```
def Reviewpopup():
```

```
    popup = tkinter.Tk()  
    popup.wm_title("Review Score")  
    popup.geometry('600x700')  
    popframe = tkinter.Frame(popup,bg="gold")
```

```
    # Create the PIL image object
```

```
    popframe.pack();
```

```
    mycursor = mydb.cursor()  
    sql = "select MAX(Id) from userplay"  
    mycursor.execute(sql)  
    record = mycursor.fetchall()
```

```
    userPlayId = 0;  
    if mycursor.rowcount > 0:  
        for row in record:  
            userPlayId = row[0]
```

```

sql = "select * from userplay where Id = %s"
mycursor.execute(sql, (str(userPlayId),))
record = mycursor.fetchall()

categoryId = 0;
if mycursor.rowcount > 0:
    for row in record:
        categoryId = row[5]

sql = "select * from Category where ID = %s"
mycursor.execute(sql, (str(categoryId),))
record = mycursor.fetchall()

category = "";
if mycursor.rowcount > 0:
    for row in record:
        category = row[1]

ttk.Label(popframe,background = 'gold', foreground ="black",
font = ('verdana', 10, 'bold'), text = "Selected Category : " + category
).grid(column = 0, row = 0, padx = 50)

#for x in range(len(questions)):
#    ShowQA(popframe, x)
qindex = 0
for que in questions.keys():
    ShowQA(popframe, que, qindex)
    qindex = qindex+1

popup.mainloop()

def ShowQA(popframe, questionIndex, qindex):
    question = list(questions.keys())[qindex]
    fgq = 'red'
    if selectedAnswers[qindex].answerChoiceId ==
questionWithAnswer[questionIndex]:

```

```

fgq = 'green'
lbl = tkinter.Label(popframe,background = 'gold', text =
questions[question],
                     font = ("papyrus", 10, 'bold'), foreground = fgq)
controls.append(lbl)
lbl.grid(column = 0,
          row = (qindex * 7) + 1, padx = 10, pady = 5)
answerchoice = GetAnswerChoice(question)

index = (qindex * 7) + 3
for answer in answerchoice:
    fg = 'black'
    if selectedAnswers[qindex].answerChoiceId == answer:
        fg = 'green'

    if fgq == 'red':
        if questionWithAnswer[questionIndex] == answer:
            fg = 'red2'
    lbl = tkinter.Label(popframe,background = 'gold', text =
answerchoice[answer],
                     font = ("Verdana", 10),foreground = fg)

    controls.append(lbl)
    lbl.grid(column = 0,
              row = index, padx = 10, pady = 2)
    index += 1

def finishTest():
    question = list(questions.keys())[4]
    sa = SelectedAnswer(question, var.get())
    selectedAnswers.append(sa)
    if alert.askokcancel("Complete Quiz", "Are you sure to finsh
the quiz ?", default = "cancel", icon = "warning"):

```

```

        selectedCategoryId =
list(category.keys())[list(category.values()).index(cbCategory.get())]
        endTime = datetime.now()
        clearControls()
        userPlayId = SaveUserPlay(selectedCategoryId)
        score = AnswerValidation(selectedCategoryId, userPlayId)
        UpdateScore(userPlayId, score)
        showResult(score)

lbl.after(10, lbl.destroy)

def AnswerValidation(selectedCategoryId, userPlayId):

    mycursor = mydb.cursor()

    sql = "select * from questions where CategoryID = %s "
    mycursor.execute(sql, (str(selectedCategoryId),))
    record = mycursor.fetchall()

    if mycursor.rowcount > 0:
        for row in record:
            questionWithAnswer[row[0]] = row[3]

    score = 0
    for sa in selectedAnswers:
        isCorrect = 0
        if questionWithAnswer[sa.questionId] ==
sa.answerChoiceId:
            isCorrect = 1
            score += 1
            SaveUserPlayDetails(userPlayId, sa.questionId,
sa.answerChoiceId, isCorrect)

    return score

def SaveUserPlay(categoryId):
    startTime = datetime.now()

```

```

        endTime = datetime.now()
        startTime = startTime.strftime('%Y-%m-
%od %H:%M:%S')
        endTime = endTime.strftime('%Y-%m-%d %H:%M:%S')
        timeTaken = startTime - endTime
        mydb = ConnectToMySQL()
        mycursor = mydb.cursor()

        sql = "INSERT INTO userplay (UserId, StartTime, EndTime,
TimeTaken, CategoryId, UserScore, TotalScore) VALUES
(%s, %s, %s, %s,%s,%s,%s)"
        val = (loggedInUserId, startTime, endTime, 0, categoryId, 0,
len(selectedAnswers))
        mycursor.execute(sql, val)

        mydb.commit()

        sql = "select MAX(Id) from userplay"
        mycursor.execute(sql)
        record = mycursor.fetchall()

        if mycursor.rowcount > 0:
            for row in record:
                userPlayId = row[0]

        return userPlayId

    def SaveUserPlayDetails(userPlayId, questionId,
selectedAnswerId, isCorrect):

        mydb = ConnectToMySQL()
        mycursor = mydb.cursor()

        sql = "INSERT INTO userplaydetails (UserPlayId, QuestionId,
SelectedAnswerId, IsCorrect, Score) VALUES (%s, %s, %s, %s, %s)"
        val = (userPlayId, questionId, selectedAnswerId, isCorrect,
isCorrect)

```

```
mycursor.execute(sql, val)

mydb.commit()

def UpdateScore(userPlayId, score):

    mydb = ConnectToMySQL()
    mycursor = mydb.cursor()

    sql = "UPDATE userplay SET userscore = %s where id = %s"
    val = (score, userPlayId)
    mycursor.execute(sql, val)

    mydb.commit()
```

```
def drawControls(questionIndex):
    question = list(questions.keys())[questionIndex]
    lbl = tkinter.Label(bottomFrame, text = questions[question],
                         background = 'gold', foreground ="black",
                         font = ("Verdana", 10))
    controls.append(lbl)
    lbl.grid(column = 0,
              row = 1, padx = 10, pady = 25)
    answerchoice = GetAnswerChoice(question)

    index = 3
    for answer in answerchoice:
        rb = tkinter.Radiobutton(bottomFrame, text =
answerchoice[answer], background = 'gold', foreground ="black",
variable=var, value=answer
        )
        controls.append(rb)
        rb.grid(column = 0,
              row = index, padx = 10, pady = 25)
        index += 1
```

```

    answerRadios.append(rb)

    if questionIndex > 0:
        btn = tkinter.Button(bottomFrame, text =
'Previous',bg="black", fg="white", command = lambda:
displayPrevious(questionIndex))
        btn.grid(column = 4, row = 8)
        controls.append(btn)
    if questionIndex < len(questions)-1:
        btn = tkinter.Button(bottomFrame, text = 'Next',bg="black",
fg="white", command = lambda: displayNext(questionIndex))
        controls.append(btn)
        btn.grid(column = 5, row = 8, padx = 20)
    if questionIndex == len(questions)-1:
        btn = tkinter.Button(bottomFrame, text =
'Finish',bg="black", fg="white", command = lambda: finishTest())
        controls.append(btn)
        btn.grid(column = 5, row = 8, padx = 20)

def time(totaltime):

    mins,secs = divmod(totaltime,60)
    string = "00:" + str(mins).zfill(2) + ":" + str(secs).zfill(2)
    if(totaltime > -1):
        lbl.config(text = string)
        totaltime -= 1
    if(totaltime >= 0):
        lbl.after(1000, lambda : time(totaltime))
    else:
        alert.showinfo("Finsh Quiz", "Oops! Your time is up.")
        clearControls()
        showResult()

def startQuiz():
    btnGo["state"] = "disabled"
    selectedCategoryId =
list(category.keys())[list(category.values()).index(cbCategory.get())]

```

```
startDateTime = datetime.now()

alert.showinfo("Start Quiz", "You will have 5 minutes to
complete this quiz. Best of Luck!")
```

```
GetQuestions(selectedCategoryId)
questionIndex = 0
drawControls(questionIndex)
time(300)
```

```
def clearControls():
    for control in controls:
        control.grid_forget()

def displayNext(questionIndex):

    question = list(questions.keys())[questionIndex]

    for sa in selectedAnswers:
        if sa.questionId == question:
            selectedAnswers.remove(sa)
    sa = SelectedAnswer(question, var.get())
    selectedAnswers.append(sa)

    clearControls()
    questionIndex += 1
    drawControls(questionIndex)

def displayPrevious(questionIndex):

    clearControls()
    questionIndex -= 1
    drawControls(questionIndex)
```

```

def GetCategories():
    mycursor = mydb.cursor()

    sql = "select * from category"
    mycursor.execute(sql)
    record = mycursor.fetchall()

    if mycursor.rowcount > 0:
        for row in record:
            category[row[0]] = row[1]
    else:
        print("Category not found.")

# label text for title
tkinter.Label(topframe, text = "Quiz Program",
              background = 'gold', foreground ="black",
              font = ("Verdana", 15)).grid(row = 1, column = 3)

# label
tkinter.Label(topframe, text = "Select the Category :",
              background = 'gold', foreground ="black",
              font = ("Verdana", 10)).grid(row = 2,
                                           column = 0, padx = 10, pady = 25)

# Combobox creation
import tkinter as tk
from tkinter import ttk
n = tk.StringVar()
cbCategory = ttk.Combobox(topframe, width = 27, textvariable =
n)
cbCategory.grid(row = 2, column = 3)
GetCategories()
# Adding combobox drop down list
cbCategory['values'] = list(category.values())

```

```
cbCategory.current(0)

    btnGo = tkinter.Button(topframe, text = 'Go !', command =
startQuiz)
    btnGo.grid(column = 4, row = 2, padx = 20)

    lbl = tkinter.Label(topframe, font = ('verdana', 10, 'bold'), text =
"00:05:00",
                      background = 'gold',
                      foreground = 'black')
    lbl.grid(column = 6, row = 2, padx = 200)

    mainWindow.mainloop()

btnGo = tkinter.Button(loginWindow, text = 'Login',command=
lambda: Login(txtUser.get(), txtPassword.get()) )
btnGo.place(relx=0.85,rely=0.6)
loginWindow.mainloop()

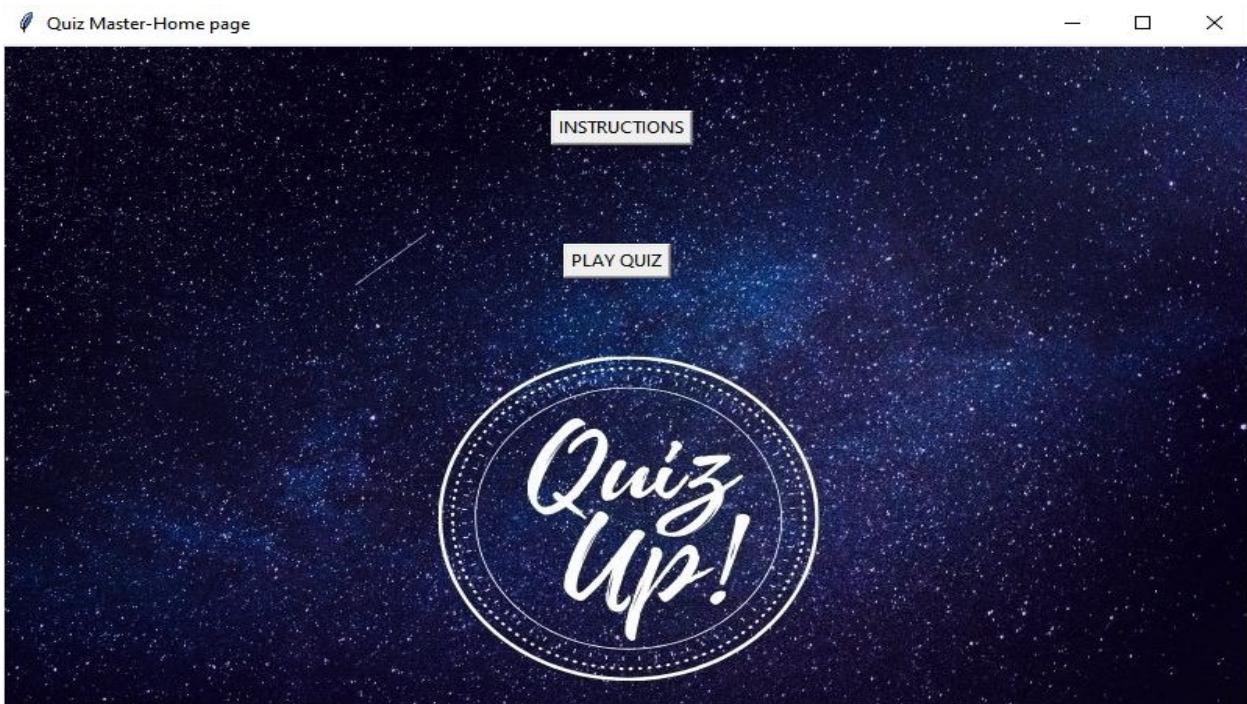
btn1=tkinter.Button(window, text = 'INSTRUCTIONS', command=
click_instructions)
btn1.place(relx=0.44,rely=0.1)

btn2=tkinter.Button(window,text="PLAY QUIZ",command=login_page)
btn2.place(relx=0.45,rely=0.3)

window.mainloop()
```

OUTPUT:

Homepage:



INSTRUCTIONS PAGE:

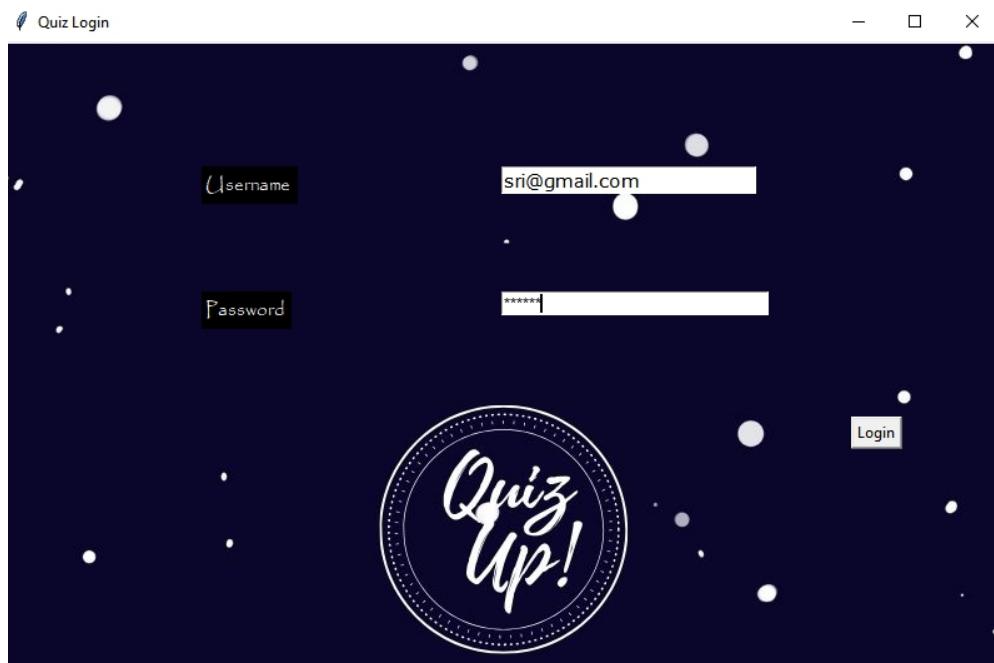
A screenshot of a web browser showing the instructions page of the quiz application. The title "INSTRUCTIONS" is centered at the top. Below it is a numbered list of 8 items describing the quiz format and user interaction. At the bottom is a large button labeled "Let's GO!".

INSTRUCTIONS

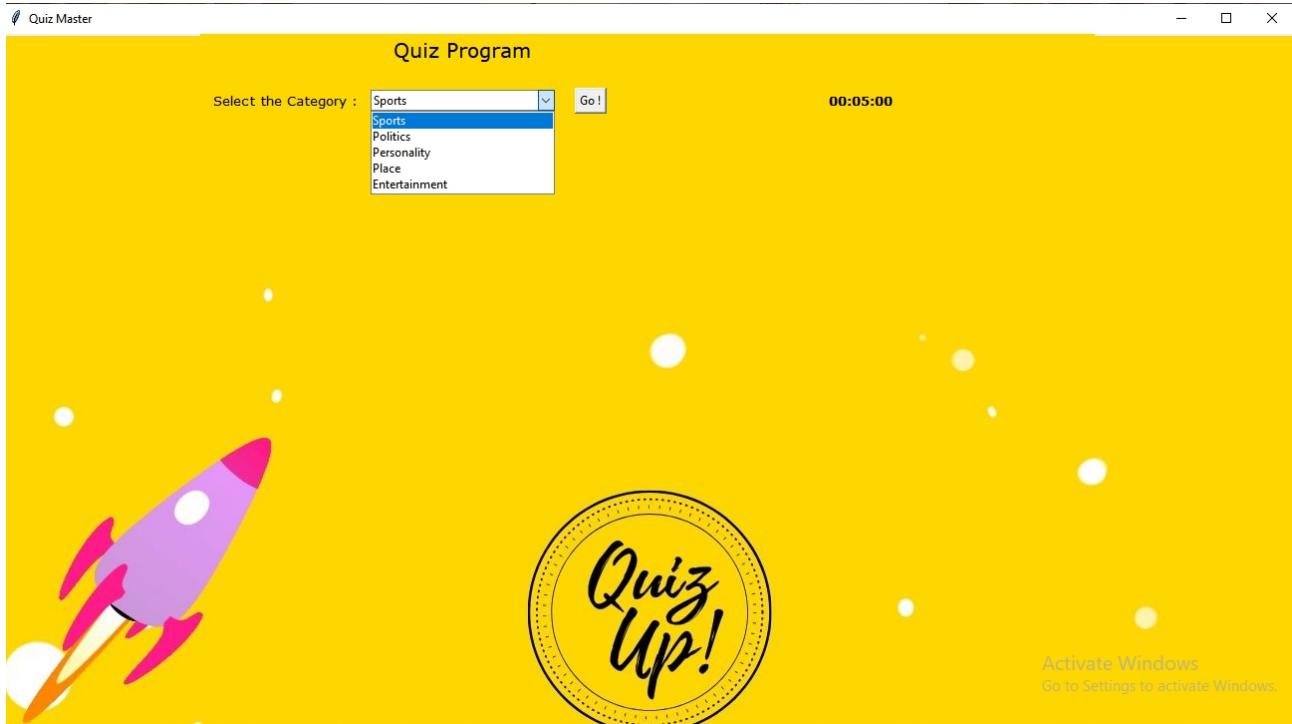
- 1)Choose one of the five topics
- 2)The duration of quiz is 5 minutes
- 3)The quiz will consist only objective type MCQs
- 4)The user should mouse-click their correct choice of the options
- 5)For every question there will be only one correct option
- 6)Click on "NEXT" or "PREVIOUS" at the bottom to move to the next or previous page
- 7)Questions can be answered in any order in given time
- 8)After completing all the questions click "FINISH"

Let's GO!

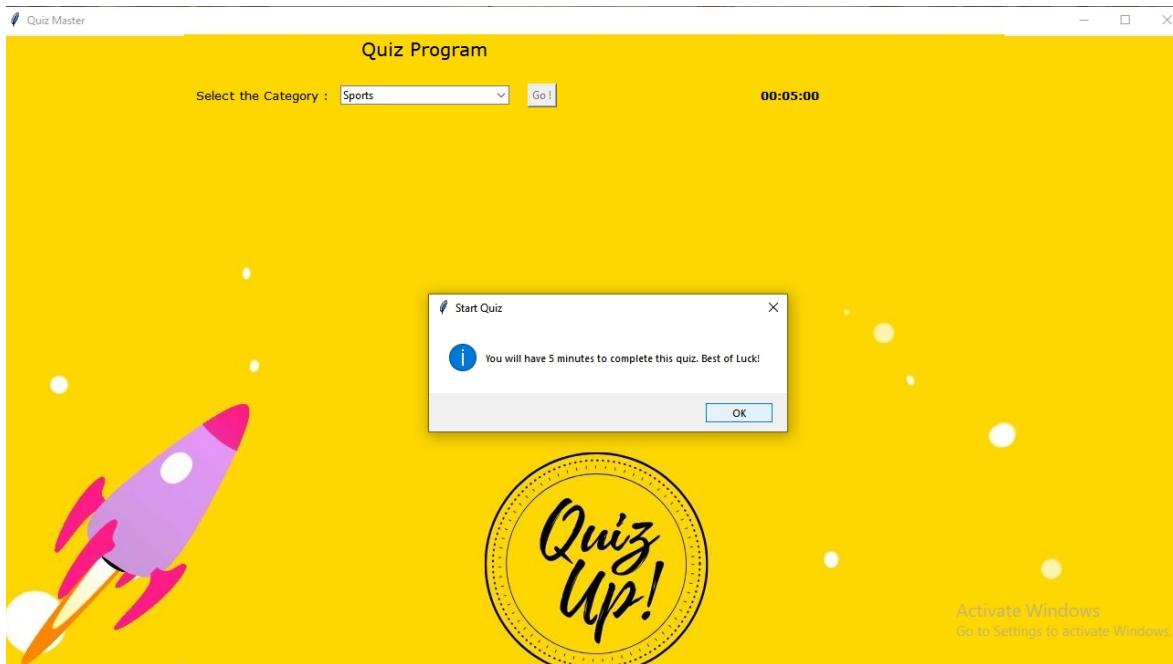
LOGIN PAGE :



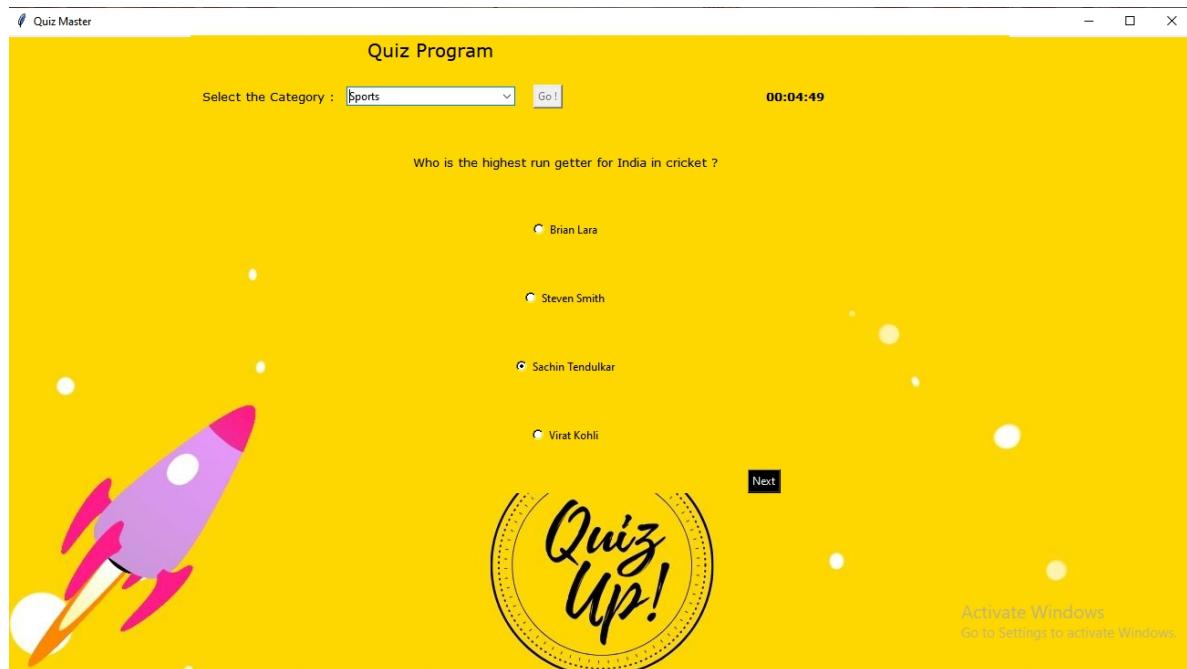
QUIZ PAGE (CATEGORY SELECTION):

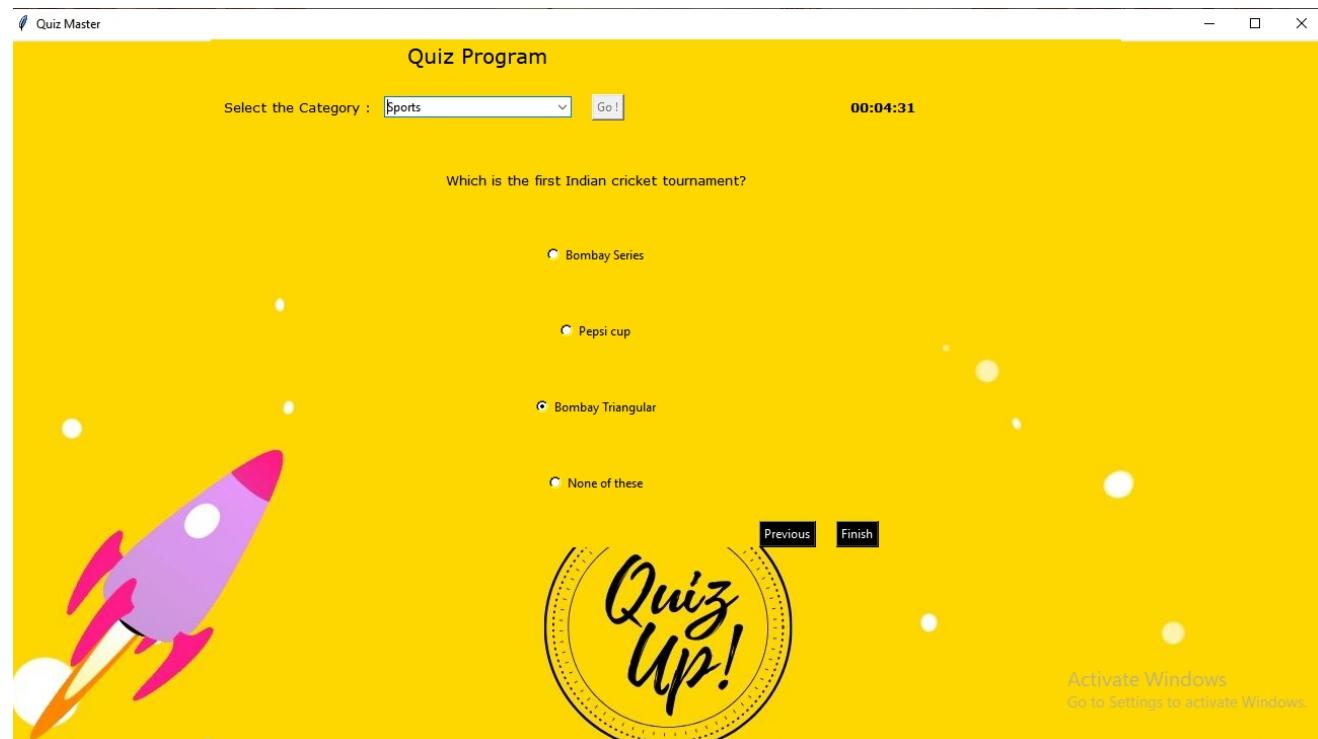
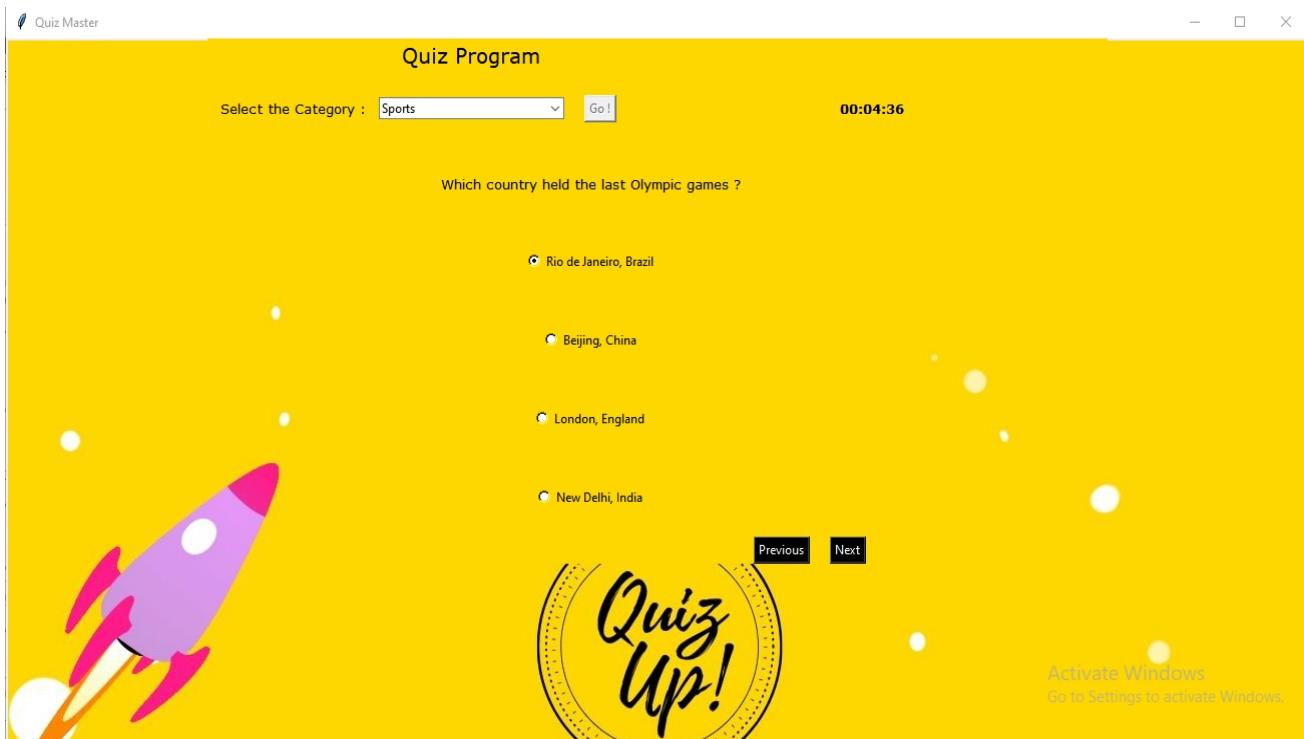


MESSAGE BOX:

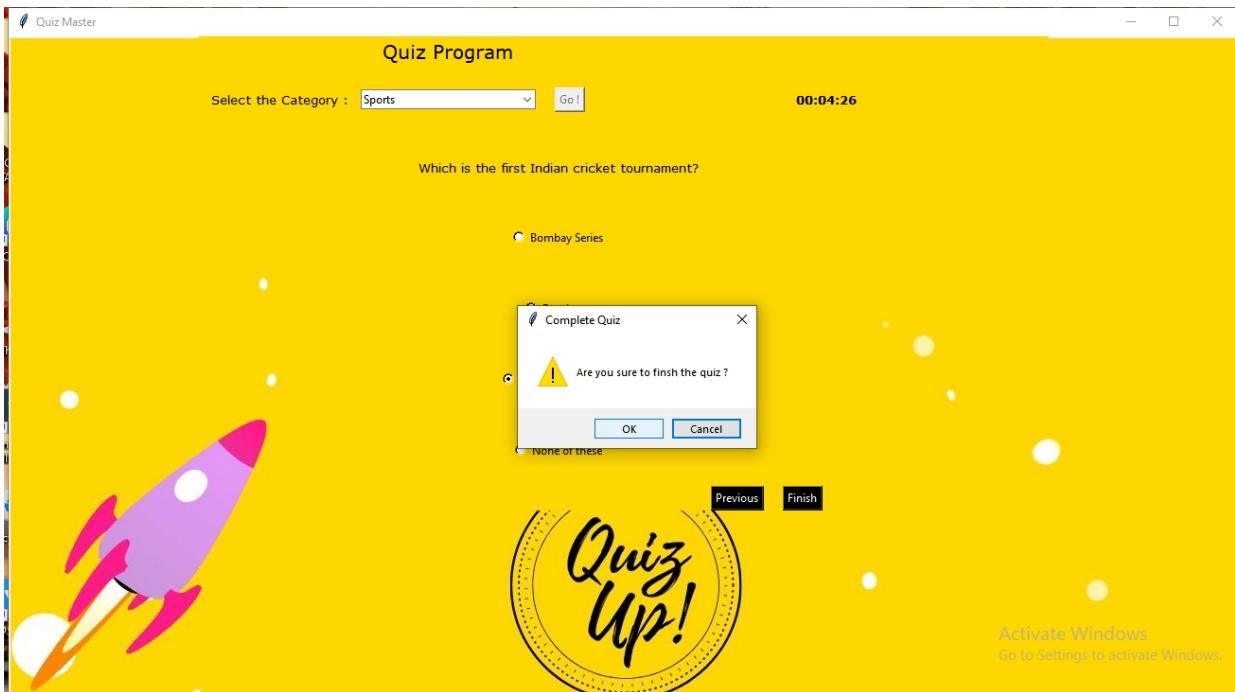


QUESTIONS PAGE:

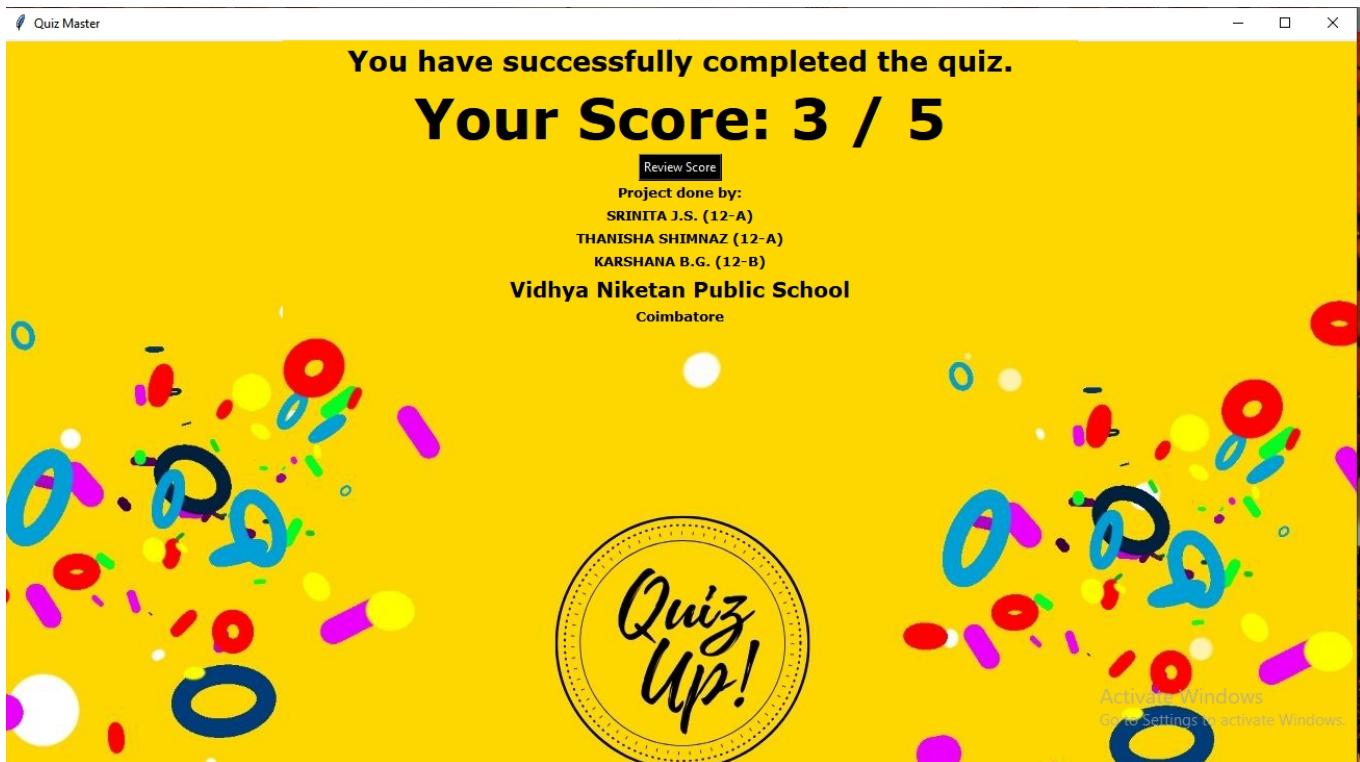




MESSAGE BOX:



SCORE PAGE:



REVIEW OPTION PAGE:

Review Score - X

Selected Category : Sports

Who is the highest run getter for India in cricket ?

- Brian Lara
- Steven Smith
- Sachin Tendulkar
- Virat Kohli

The Common Wealth Games started from which among the following countries?

- England
- Canada
- Australia
- India

Which country held the last Olympic games ?

- Rio de Janeiro, Brazil
- Beijing, China
- London, England
- New Delhi, India

Which country held the 2010 Commonwealth games ?

- Malaysia
- Britain
- Canada
- India

Which is the first Indian cricket tournament?

- Bombay Series
- Pepsi cup
- Bombay Triangular

MYSQL TABLES:

ANSWERCHOICE:

```
mysql> desc answerchoice;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+-----+
| ChoiceID | int(11) | NO  | PRI | NULL    | auto_increment |
| QuestionId | int(11) | NO  | MUL | NULL    |               |
| Choice | varchar(200) | NO  |     | NULL    |               |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.13 sec)
```

```
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> select * from answerchoice;
+-----+-----+-----+
| ChoiceID | QuestionId | Choice
+-----+-----+-----+
| 1 | 1 | Brian Lara
| 2 | 1 | Steven Smith
| 3 | 1 | Sachin Tendulkar
| 4 | 1 | Virat Kohli
| 5 | 2 | England
| 6 | 2 | Canada
| 7 | 2 | Australia
| 8 | 2 | India
| 9 | 3 | Rio de Janeiro, Brazil
| 10 | 3 | Beijing, China
| 11 | 3 | London, England
| 12 | 3 | New Delhi, India
| 13 | 4 | Malaysia
| 14 | 4 | Britain
| 15 | 4 | Canada
| 16 | 4 | India
| 17 | 5 | Bombay Series
| 18 | 5 | Pepsi cup
| 19 | 5 | Bombay Triangular
| 20 | 5 | None of these
| 21 | 6 | Deepak Katole
| 22 | 6 | Kaka Kalelkar
| 23 | 6 | S K Kharventhan
| 24 | 6 | Ambedkar
| 25 | 7 | Financial emergency
| 26 | 7 | National emergency
| 27 | 7 | Pandemic emergency
| 28 | 7 | None of the above
| 29 | 8 | Yielding the floor
| 30 | 8 | Crossing the floor
| 31 | 8 | Point of order
| 32 | 8 | Calling attention notion
| 33 | 9 | UK Constitution
| 34 | 9 | US Constitution
| 35 | 9 | UEA Constitution
| 36 | 9 | Australian Constitution
| 37 | 10 | Mukherjee Commission
```

36	9	Australian Constitution
37	10	Mukherjee Commission
38	10	Mandal Commission
39	10	Sarkaria Commission
40	10	Khosla Commission
41	11	Aristotle
42	11	Pythagoras
43	11	Euclid
44	11	Kepler
45	12	Gobind Ballabh Pant
46	12	Sardar Vallabhai Patel
47	12	Jawaharlal Nehru
48	12	Subash Chandra Bose
49	13	Film Direction
50	13	Classical Music
51	13	Classical Dance
52	13	Commercial Art
53	14	Kuchipudi
54	14	Odissi
55	14	Bharathanatyam
56	14	Kathak
57	15	Producer
58	15	Dancer
59	15	Painter
60	15	Actor
61	16	Jaipur
62	16	Mumbai
63	16	Nagpur
64	16	Raipur
65	17	Uttar Pradesh
66	17	Rajasthan
67	17	Maharashtra
68	17	Madhya Pradesh
69	18	Banglore
70	18	Hyderabad
71	18	Chennai
72	18	Kolkata
73	19	Jaipur
74	19	Shimla
75	19	Lucknow
76	19	Chandigarh
77	20	Iran
78	20	Iraq
79	20	Jordan
	72	Kolkata
	73	Jaipur
	74	Shimla
	75	Lucknow
	76	Chandigarh
	77	Iran
	78	Iraq
	79	Jordan
	80	Saudi Arabia
	81	Kalidas
	82	Gardish
	83	Alam Ara
	84	Tanu Weds Manu Returns
	85	Satyajit Ray
	86	Dada Saheb Torne
	87	V.Santharam
	88	None of these
	89	1929
	90	1921
	91	1925
	92	1931
	93	Hip hop
	94	Jazz
	95	R&B
	96	Pop
	97	Guru Dutt
	98	Rama Rao
	99	Sivaji Ganesan
	100	Prithvi Raj

100 rows in set (0.35 sec)

CATEGORY:

```
mysql> desc category;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID    | int(11) | NO | PRI | NULL | auto_increment |
| Name  | varchar(50) | NO | UNI | NULL | |
| Description | varchar(100) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from category;
+---+-----+-----+
| ID | Name | Description |
+---+-----+-----+
| 1 | Sports | Sports |
| 2 | Politics | Politics |
| 3 | Personality | Personality |
| 4 | Place | Place |
| 5 | Entertainment | Entertainment |
+---+-----+-----+
5 rows in set (0.00 sec)
```

QUESTIONS:

```
mysql> desc questions;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| ID    | int(11) | NO   | PRI | NULL    | auto_increment |
| CategoryID | int(11) | NO   | MUL | NULL    |
| Question | varchar(200) | NO   |     | NULL    |
| AnswerChoice | int(11) | YES  | MUL | NULL    |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

5 rows in set (0.13 sec)

mysql> select * from questions;
+-----+-----+
| ID | CategoryID | Question
|     | AnswerChoice |
+-----+-----+
| 1 |      1 | Who is the highest run getter for India in cricket ?
|     |      3 |
| 2 |      1 | The Common Wealth Games started from which among the following countries?
|     |      6 |
| 3 |      1 | Which country held the last Olympic games ?
|     |      9 |
| 4 |      1 | Which country held the 2010 Commonwealth games ?
|     |     16 |
| 5 |      1 | Which is the first Indian cricket tournament?
|     |     19 |
| 6 |      2 | The first backward class commission was appointed in 1953 under chairmanship of
|     |     23 |
| 7 |      2 | Article 359 of the Constitution authorizes the President of India to suspend the right to move any court for the enforcement of fundamental rights during :
|     |     26 |
| 8 |      2 | The speaker of Lok Sabha can ask a member of the house to stop speaking and let another member speak.This phenomenon is :
|     |     29 |
| 9 |      2 | The provisions of concurrent list , freedom of trade , commerce and joint sitting of two houses of the Parliament are borrowed from :
|     |     36 |
| 10 |      2 | The Interstate Council was established in 1990 in pursuance of the recommendation made by :
|     |     39 |
| 11 |      3 | Who is the father of geometry?
|     |     43 |
| 12 |      3 | Who is known as the Iron man of India?
|     |     46 |
| 13 |      3 | Which of the following was Satyajit Ray associated with?
|     |     49 |
| 14 |      3 | Guru Gopi Krishna was a maestro of:
|     |     56 |
| 15 |      3 | Jamini Roy was a famous :
|     |     59 |
| 16 |      4 | Which city is called as Orange city in India ?
|     |     63 |
| 17 |      4 | The famous Dilwara temples are situated in
|     |     66 |
| 18 |      4 | The Indian Institute of Science is located at
|     |     69 |
| 19 |      4 | The famous Rock Garden is located in which city?
|     |     76 |
| 20 |      4 | Petra is located in which country ?
|     |     79 |
| 21 |      5 | Which is the first Indian sound film ?
|     |     83 |
| 22 |      5 | Who is the father of Indian cinema ?
|     |     86 |
| 23 |      5 | From which year, Oscar award was awarded ?
|     |     89 |
| 24 |      5 | What kind of music is popular in South Korea ?
|     |     96 |
| 25 |      5 | Who is the first Indian actor to win "Best actor" award ?
|     |     99 |
+-----+-----+
25 rows in set (0.02 sec)
```

Activate Windows
Go to Settings to activate Windows.

USERPLAY :

```
mysql> desc userplay;
+-----+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+-----+
| Id    | int(11) | NO   | PRI  | NULL    | auto_increment |
| UserId | int(11) | NO   | MUL  | NULL    |               |
| StartTime | datetime | NO   |      | NULL    |               |
| EndTime | datetime | YES  |      | NULL    |               |
| TimeTaken | int(11) | YES  |      | 0       |               |
| CategoryId | int(11) | NO   | MUL  | NULL    |               |
| UserScore | int(11) | NO   |      | 0       |               |
| TotalScore | int(11) | NO   |      | 0       |               |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
25 rows in set (0.02 sec)

mysql> select * from userplay;
+-----+-----+-----+-----+-----+-----+-----+-----+
| Id  | UserId | StartTime | EndTime | TimeTaken | CategoryId | UserScore | TotalScore |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 14 | 3     | 2020-10-20 21:51:39 | 2020-10-20 21:51:39 | 0          | 1          | 0          | 5          |
| 15 | 3     | 2020-10-20 21:57:50 | 2020-10-20 21:57:50 | 0          | 1          | 0          | 5          |
| 16 | 3     | 2020-10-20 22:01:24 | 2020-10-20 22:01:24 | 0          | 1          | 0          | 5          |
| 17 | 3     | 2020-10-20 22:16:26 | 2020-10-20 22:16:26 | 0          | 1          | 5          | 5          |
| 19 | 3     | 2020-10-21 06:50:48 | 2020-10-21 06:50:48 | 0          | 1          | 3          | 5          |
| 20 | 3     | 2020-10-21 06:52:32 | 2020-10-21 06:52:32 | 0          | 1          | 2          | 5          |
| 21 | 3     | 2020-10-21 08:08:13 | 2020-10-21 08:08:13 | 0          | 1          | 0          | 5          |
| 22 | 3     | 2020-10-21 08:09:06 | 2020-10-21 08:09:06 | 0          | 1          | 1          | 5          |
| 23 | 3     | 2020-10-21 08:11:10 | 2020-10-21 08:11:10 | 0          | 1          | 2          | 5          |
| 24 | 3     | 2020-10-21 08:12:20 | 2020-10-21 08:12:20 | 0          | 1          | 2          | 5          |
| 25 | 3     | 2020-10-21 08:13:39 | 2020-10-21 08:13:39 | 0          | 1          | 0          | 5          |
| 26 | 4     | 2020-10-21 08:17:15 | 2020-10-21 08:17:15 | 0          | 1          | 2          | 5          |
| 27 | 4     | 2020-10-21 08:19:52 | 2020-10-21 08:19:52 | 0          | 1          | 2          | 5          |
| 28 | 4     | 2020-10-21 08:26:45 | 2020-10-21 08:26:45 | 0          | 1          | 3          | 5          |
| 29 | 4     | 2020-10-21 09:17:44 | 2020-10-21 09:17:44 | 0          | 1          | 4          | 5          |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

USERPLAYDETAILS:

```
mysql> desc userplaydetails;
+-----+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+-----+
| Id    | int(11) | NO   | PRI  | NULL    | auto_increment |
| UserPlayId | int(11) | NO   | MUL  | NULL    |               |
| QuestionId | int(11) | NO   | MUL  | NULL    |               |
| SelectedAnswerId | int(11) | NO   | MUL  | NULL    |               |
| IsCorrect | int(11) | NO   |      | NULL    |               |
| Score    | varchar(45) | NO   |      | NULL    |               |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

```
mysql> select * from userplaydetails;
+----+-----+-----+-----+-----+-----+-----+
| Id | UserPlayId | QuestionId | SelectedAnswerId | IsCorrect | Score |
+----+-----+-----+-----+-----+-----+-----+
| 61 |      14 |       1 |         1 |      0 |    0 |
| 62 |      14 |       2 |         6 |      1 |    1 |
| 63 |      14 |       3 |         9 |      1 |    1 |
| 64 |      14 |       4 |        14 |      0 |    0 |
| 65 |      14 |       5 |        18 |      0 |    0 |
| 66 |      15 |       1 |         3 |      1 |    1 |
| 67 |      15 |       2 |         6 |      1 |    1 |
| 68 |      15 |       3 |        11 |      0 |    0 |
| 69 |      15 |       4 |        13 |      0 |    0 |
| 70 |      15 |       5 |        19 |      1 |    1 |
| 71 |      16 |       1 |         3 |      1 |    1 |
| 72 |      16 |       2 |         6 |      1 |    1 |
| 73 |      16 |       3 |        11 |      0 |    0 |
| 74 |      16 |       4 |        16 |      1 |    1 |
| 75 |      16 |       5 |        19 |      1 |    1 |
| 76 |      17 |       1 |         3 |      1 |    1 |
+----+-----+-----+-----+-----+-----+-----+
```

USERROLE:

```
mysql> desc userrole;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| ID    | int(5) | NO   | PRI | NULL    |       |
| ROLE  | varchar(10)| NO  |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> select * from userrole;
+----+-----+
| ID | ROLE |
+----+-----+
| 1 | QUIZMASTER |
| 2 | PLAYER |
+----+-----+
2 rows in set (0.00 sec)
```

USERS:

```
mysql> desc users;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra       |
+-----+-----+-----+-----+-----+-----+
| ID    | int(5) | NO   | PRI   | NULL    | auto_increment |
| USERNAME | varchar(30) | NO   | UNI   | NULL    |               |
| PASSWORD | varchar(10) | NO   |       | NULL    |               |
| ROLEID | int(5)  | NO   | MUL   | NULL    |               |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> select * from users;
+-----+-----+-----+-----+
| ID  | USERNAME        | PASSWORD | ROLEID |
+-----+-----+-----+-----+
| 3   | karshanabg@gmail.com | 123456 | 1      |
| 4   | karshanaplr@gmail.com | 123456 | 2      |
| 5   | sri@gmail.com     | 123456 | 2      |
| 6   | thanish@gmail.com | 123456 | 2      |
| 7   | srijs@gmail.com   | 123456 | 2      |
| 8   | thanisha@gmail.com | 123456 | 2      |
| 9   | srinita@gmail.com | 123456 | 2      |
| 10  | sports@gmail.com  | 123456 | 2      |
| 11  | master@gmail.com  | 123456 | 2      |
| 12  | quiz@gmail.com   | 123456 | 2      |
| 13  | sam@gmail.com    | 123456 | 2      |
| 14  | bts@gmail.com    | 123456 | 2      |
| 15  | alisha@gmail.com | 123456 | 2      |
| 16  | maya@gmail.com   | 123456 | 2      |
| 17  | ram@gmail.com    | 123456 | 2      |
| 18  | sriya@gmail.com  | 123456 | 1      |
+-----+-----+-----+-----+
```

CONCLUSION

The program code is user friendly and creates no confusion for the users while accessing it. It uses simple algorithm that is student friendly and can be used by any institution to conduct online exams or tests by simply adding more questions. It saves time and displays the results as the test gets over without any further delays as it is automatically generated by the server. User can login and give the test with his specific id, and can see the results as well. The program also stores all the data /information in an organised way.

The code only uses function blocks and Tkinter module for the tkinter window and has no complicated ones.

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