

**K S RANGASAMY COLLEGE OF TECHNOLOGY**

(Autonomous)

TIRUCHENGODE-637215



**A MINI PROJECT REPORT**

**ONLINE QUIZ SYSTEM**

**60 IT L04 – C# AND .NET FRAMEWORK**

**BACHELOR OF ENGINEERING**  
**in**  
**COMPUTER SCIENCE AND ENGINEERING**

*Submitted by*

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**BONAFIDE CERTIFICATE**

Certified that this project report titled “**ONLINE QUIZ SYSTEM**” is the bonafide work of **SRI VISHRUTHI C (73772214211)** who carried out the project under my guidance.

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## ABSTRACT

The **Online Quiz System** is an interactive software designed to provide users with a series of multiple-choice questions, enabling them to assess their knowledge on various topics. The system allows users to answer questions, validate their responses, and receive immediate feedback on whether their choices are correct or incorrect. Each question is associated with multiple answer options, and the system ensures that only valid answers are accepted. At the end of the quiz, users are presented with their score, offering a clear reflection of their performance.

This system offers an engaging and user-friendly experience, making it ideal for educational purposes, trivia games, or skill assessments. It allows for easy addition of new questions and ensures smooth interaction through a simple console interface. Designed to be scalable and flexible, the Online Quiz System can be expanded with more features, such as a timer, leaderboards, or a more advanced user interface, to enhance its functionality and reach a wider audience.

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# CHAPTER 1

## INTRODUCTION

The **Online Quiz System** is a digital platform designed to create and conduct quizzes for various purposes, such as education, skill assessments, and entertainment. The system allows users to answer multiple-choice questions and immediately receive feedback on their responses, with a score displayed at the end of the quiz. It offers a simple yet engaging interface where users can interact with a set of questions, answer choices, and view correct answers once they've submitted their responses. It is highly customizable, making it suitable for educators or organizations to create quizzes on different topics, track user progress, and evaluate their knowledge in real-time.

The system is structured for easy use, offering essential features such as question management, real-time scoring, and input validation to ensure smooth interaction. It is designed to be both scalable and flexible, allowing for the addition of new questions, categories, or features like timers and leaderboards. The Online Quiz System can be applied in a variety of settings, from schools and universities to online trivia games and skill-testing platforms, making it an effective tool for both learning and entertainment.

## CHAPTER 2

### REQUIREMENT ANALYSIS

#### Functional Requirements:

1. **Create a Quiz:** Administrators can create new quizzes by adding questions, options, and correct answers.
2. **Edit a Quiz:** Administrators can modify existing quizzes, including updating questions or answer options.
3. **Delete a Quiz:** Administrators can remove quizzes that are no longer needed.
4. **Take a Quiz:** Users can attempt quizzes, selecting answers for each question.
5. **View Results:** Users can view their scores immediately after completing the quiz.

#### Non-Functional Requirements:

1. **User-Friendly Interface:** The system will feature an intuitive and clean interface for both administrators and users.
2. **Responsiveness:** Operations such as quiz creation, editing, and viewing results will occur in real-time.
3. **Scalability:** The system will allow for future enhancements, such as adding timed quizzes, leaderboards, or category-based quizzes.

## **Tools and Technologies:**

- **Programming Language:** C#
- **Framework:** .NET Framework (Windows Forms)
- **IDE:** Visual Studio

## CHAPTER 3

### DESIGN AND IMPLEMENTATION

#### System Overview:

##### Graphical User Interface (GUI):

1. A **DataGridView** control displays the list of quizzes or questions.
2. **Text fields (TextBox)** are used for quiz/question title, options, and correct answer inputs.
3. **Buttons (Button)** perform actions like creating, saving, editing, and deleting quizzes or questions.

##### Data Management:

1. A **DataTable** serves as an in-memory storage structure for quiz or question data.
2. Binding is used to link the **DataTable** to the **DataGridView** for real-time updates and display.



## Code Summary:

- **Form Load:** Initializes the **DataTable** and sets up the **DataGridView** binding to display quiz/question details.
- **New Quiz/Question:** Clears the text boxes for fresh input to create a new quiz or question.
- **Edit Quiz/Question:** Loads the selected quiz/question details into the input fields for modification.
- **Delete Quiz/Question:** Removes the selected quiz/question from the **DataTable**.
- **Save Quiz/Question:** Adds or updates quiz/question details in the **DataTable** and refreshes the display.

## CHAPTER 4

### CODE

```
using System;

using System.Collections.Generic;


class QuizSystem
{

    static List<Question> questions = new List<Question>();

    static int score = 0;


    static void Main()
    {

        // Initialize quiz questions

        InitializeQuiz();


        Console.WriteLine("Welcome to the Online Quiz System!");

        Console.WriteLine("Answer the following questions:");
```

```

// Loop through questions

foreach (var question in questions)

{

    AskQuestion(question);

}


// Display final score

Console.WriteLine($"\\nYour final score is: {score}/{questions.Count}");

}


static void InitializeQuiz()

{

    questions.Add(new Question

    {

        QuestionText = "What is the capital of France?",

        Options = new List<string> { "Berlin", "Madrid", "Paris", "Rome" },

        CorrectAnswer = "Paris"

    });

```

```
questions.Add(new Question
{
    QuestionText = "Which programming language is used for .NET
development?",
    Options = new List<string> { "Java", "C#", "Python", "Ruby" },
    CorrectAnswer = "C#"
});
```

```
questions.Add(new Question
{
    QuestionText = "Who is the president of the United States in 2024?",
    Options = new List<string> { "Barack Obama", "Donald Trump", "Joe
Biden", "George Bush" },
    CorrectAnswer = "Joe Biden"
});
```

```
questions.Add(new Question
{
```

```
QuestionText = "Which planet is known as the Red Planet?",
```

```
Options = new List<string> { "Mars", "Earth", "Jupiter", "Saturn" },
```

```
CorrectAnswer = "Mars"
```

```
});
```

```
questions.Add(new Question
```

```
{
```

```
    QuestionText = "What is the largest mammal in the world?",
```

```
    Options = new List<string> { "Elephant", "Blue Whale", "Giraffe",  
    "Shark" },
```

```
    CorrectAnswer = "Blue Whale"
```

```
});
```

```
}
```

```
static void AskQuestion(Question question)
```

```
{
```

```
    Console.WriteLine($"{question.QuestionText}");
```

```
// Display options

for (int i = 0; i < question.Options.Count; i++)

{

    Console.WriteLine($"{i + 1}. {question.Options[i]}");

}


Console.Write("Enter the number of your answer: ");

string userAnswer = Console.ReadLine();


// Validate the answer

if (IsValidAnswer(userAnswer, question.Options.Count))

{

    int answerIndex = int.Parse(userAnswer) - 1;

    if (question.Options[answerIndex] == question.CorrectAnswer)

    {

        Console.WriteLine("Correct!");

        score++;

    }

}
```

```

        else

        {

            Console.WriteLine("Wrong! The correct answer is: " +
question.CorrectAnswer);

        }

    }

    else

    {

        Console.WriteLine("Invalid option! Skipping question.");

    }

}

static bool IsValidAnswer(string answer, int numberOfOptions)

{

    return int.TryParse(answer, out int result) && result >= 1 && result <=
numberOfOptions;

}

}

class Question

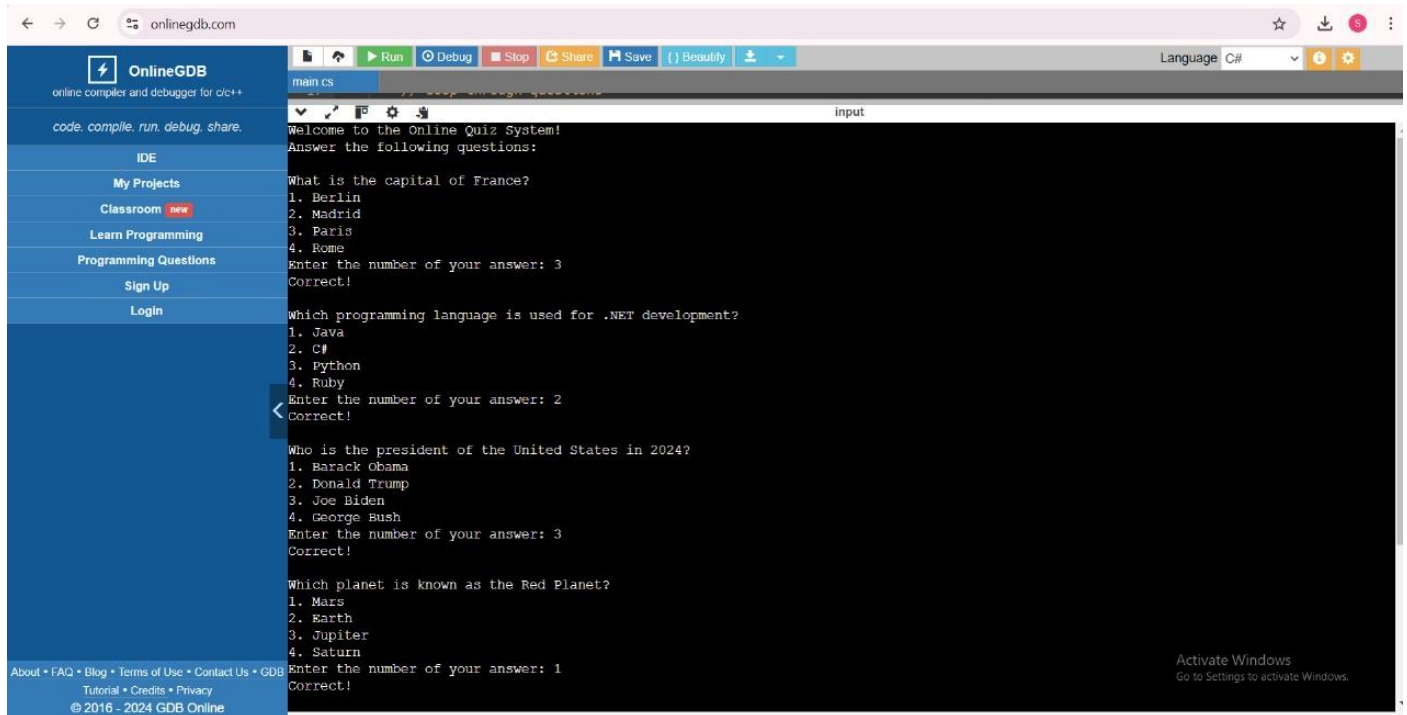
```

```
{  
  
    public string QuestionText { get; set; }  
  
    public List<string> Options { get; set; }  
  
    public string CorrectAnswer { get; set; }  
  
}
```



# CHAPTER 5

## OUTPUT



The screenshot shows the OnlineGDB interface with a C# program running. The program is a quiz system. The output in the console is as follows:

```
main.cs
Welcome to the Online Quiz System!
Answer the following questions:

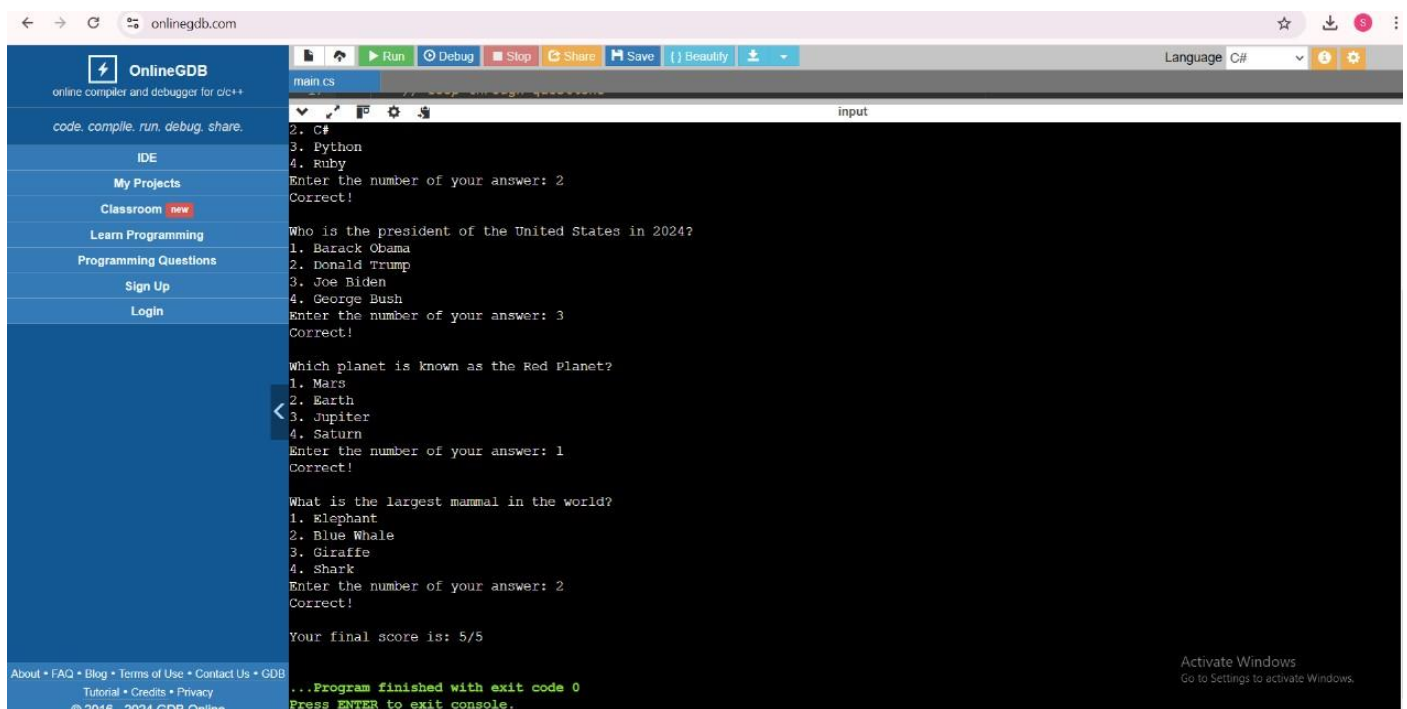
What is the capital of France?
1. Berlin
2. Madrid
3. Paris
4. Rome
Enter the number of your answer: 3
Correct!

Which programming language is used for .NET development?
1. Java
2. C#
3. Python
4. Ruby
Enter the number of your answer: 2
Correct!

Who is the president of the United States in 2024?
1. Barack Obama
2. Donald Trump
3. Joe Biden
4. George Bush
Enter the number of your answer: 3
Correct!

Which planet is known as the Red Planet?
1. Mars
2. Earth
3. Jupiter
4. Saturn
Enter the number of your answer: 1
Correct!
```

The left sidebar contains the OnlineGDB logo and navigation links: code, compile, run, debug, share. The bottom of the sidebar has links for About, FAQ, Blog, Terms of Use, Contact Us, GDB Tutorial, Credits, Privacy, and a copyright notice for 2016-2024 GDB Online. The top toolbar includes buttons for Run, Debug, Stop, Share, Save, and Beautify. The language is set to C#.



This screenshot shows the continuation of the C# program output from the previous screenshot. The program has completed all five questions and displays the final score.

```
2. C#
3. Python
4. Ruby
Enter the number of your answer: 2
Correct!

Who is the president of the United States in 2024?
1. Barack Obama
2. Donald Trump
3. Joe Biden
4. George Bush
Enter the number of your answer: 3
Correct!

Which planet is known as the Red Planet?
1. Mars
2. Earth
3. Jupiter
4. Saturn
Enter the number of your answer: 1
Correct!

What is the largest mammal in the world?
1. Elephant
2. Blue Whale
3. Giraffe
4. Shark
Enter the number of your answer: 2
Correct!

Your final score is: 5/5

...Program finished with exit code 0
Press ENTER to exit console.
```

The interface elements are consistent with the previous screenshot, showing the OnlineGDB sidebar, toolbar, and browser window.

## CHAPTER 6

### CONCLUSION

The **Online Quiz System** project provides an interactive and efficient platform for conducting quizzes, whether for educational purposes, assessments, or entertainment. By implementing features such as real-time scoring, feedback, and question management, the system offers an engaging way to evaluate knowledge and track progress. The project's modular structure allows for scalability and future enhancements, such as integrating additional quiz categories or advanced user analytics. Overall, this system is an excellent tool for learning, assessment, and gamification, offering flexibility for users and ease of use for administrators.

## CHAPTER 7

### REFERENCES

- "Designing a Quiz Application Using C#" Link: <https://www.codeproject.com/>
- "Building a Quiz App with ASP.NET Core and Entity Framework" Link: <https://www.telerik.com/blogs>
- "Multiple Choice Quiz System - A Simple Implementation" Link: <https://www.c-sharpcorner.com/>