Project Report

Product Name	Applied Degree in Software Engineering (BDSE)
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Product Name	Programming Foundations
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Project title	**Development of MCQ System**

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I certify that the work submitted for this assignment is my own and research sources are fully acknowledged. Student signature: Date:

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1. Introduction

The full form of MCQ is Multiple Choice Question.

In msq you have 4 or more then 4 options to choose the correct answer. Instead of writing a long answer for your question, you can choose the right answer from your question.

MCQ also known as objective questions and long answers are subjective.

2. Background

The company wants to expand its market into the Information Technology subject areas, which is why this project was created. The company wants their interns to create and produce software development in order to assess their knowledge of the subject. They want the internship to teach them how to use an MCQ system.

3. Algorithm

An algorithm is a set of well-defined instructions for solving a problem in computer programming. It takes a set of inputs and outputs the desired results.

In Java, algorithms are static methods that can be used to perform operations on collections. Algorithms are also known as generic algorithms because they can be used on a variety of collections.

In the algorithm of this project, the program starts by asking for input from the user's name, then the program asks for options from the user to choose MCQ in the form of java basic or company structures, after that the program displays MCQ questions one by one and also asks for input answers from the user.

4. Types of Algorithms

Object-oriented programming (OOP) is a programming paradigm that revolves around objects. Attributes are used to store data, whereas methods are used to store code. In object-oriented programming, computer programs are created using the concept of objects that interact with real-world entities. Class-based programming languages are the most widely used object-oriented programming languages, which means that objects are instances of classes, which also determine their types.

5. Coding Standards

Component Coding Standards: When naming components, it's best to start with the purpose. The readability and maintainability of code is improved

with this approach.

Coding Standards for Classes: Typically, a noun beginning with an uppercase letter should be used as the class name. Every inner word should begin with uppercase if it contains multiple words.

Example in my project : Main.java, JavaBasic.java and CompanyStructures.java

Coding Standards for Methods: Typically, the first letter of the method name should be a verb or a verb-noun combination. Every inner word should begin with uppercase if it contains multiple words.

Example in my project : run().

Coding Standards for Variables: Variable names usually should begin with a lowercase letter and end with a noun. If there are multiple words in it, each one should begin with an uppercase letter.

Example in my project : name, csvFile, line, splitBy, no, correct, incorrect and score.

6. Project Design

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7. Implementation

Step 1 : When the program first starts, the user will be required to enter their name. Taking user input using “Scanner”,

```
Scanner in = new Scanner(System.in);
System.out.println("Enter Your Name :");
name = in.nextLine();
```

Step 2 : After the user inputs the name, then an option appears to choose MCQ Java Basic or Control Structures. If 1 or 2 is selected it will run the class, for example JavaBasic. Using if statement for run the class.

```
System.out.println("Choose your Multiple Choice Question Set. The Options are :");
System.out.println("1. Java Basics");
System.out.println("2. Control Structures");
int input = in.nextInt();

if (input == 1) {
    JavaBasics.run();
}
if (input == 2) {
    ControlStructures.run();
}
in.close();
```

Step 3 : Then the questions in MCQ appear one by one and user can answer one by one, where the questions and answers are taken from the csv file. to fetch values from csv using BufferedReader

```
try (BufferedReader br = new BufferedReader(new FileReader(csvFile))) {
    while ((line = br.readLine()) != null) {
        String[] question = line.split(splitBy);
        System.out.println("Question " + no + ":\n" + question[0]
                + "\nA. " + question[1]
                + "\nB. " + question[2]
                + "\nC. " + question[3]
                + "\nD. " + question[4]);
        String answer = in.nextLine();
        no++;
```

Step 4 : Check the right and wrong answers from the user, If the answers is right user will get 1 score, and also if the answers is wrong user will get wrong answer warning

```
if (question[5].equals(answer)) {
    correct++;
    score = (correct * 100) / 10;
    System.out.println("Your answer is correct.");
} else {
    incorrect++;
    System.out.println("Wrong Answer. The Correct Answer is " + question[5] + ". " + question[6]);
}
```

Step 5 : Printing the name user and score and informing them of how many correct and incorrect answers they have received.

```
System.out.println(name + ", you answered " + correct + " Questions Right, " + incorrect + " Questions Wrong for a Total of 10 Questions.");
System.out.println("You scored " + score + "%");
```