Programming Assignment Unit 1

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CS 1102: Programming 1

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```java
package textio;
import java.util.Scanner;

public class GamifiedQuiz {

    public static void main(String[] args) {
        // TODO Auto-generated method stub

        Scanner scanner = new Scanner(System.in);
        //Questions and Answers
        String[] Questions = {
                "1. What is the S.I unit of length?",
                "2. Calculate the density of 100g of water with a volume of 20cm^3>",
                "3. A car travels at a speed of 20m/s for 30 minutes. Calculate the
  distance covered after 30 minutes.",
                "4. An apple has a mass of 10g, calculate its weight. (Use g=10N/kg)",
                "5. A car of mass 600kg travels at a speed of 20m/s. Calculate its
  momentum.",
        };
        String[] Options = {
                "A. Metres\\tB. Micrometres\\tC. Kilometres\\tD. Hectometres",
                "A. 2000g/cm^3\\tB. 80g/cm^3\\tC. 5g/cm^3\\tD. 120g/cm^3",
                "A. 0.67m\\tB. 36000m\\tC. 600m\\tD. 1.5m",
                "A. 100N\\tB. 1N\\tC. 0.001N\\tD. 0.1N",
                "A. 12000kg.m/s\\tB. 30kg.m/s\\tC. 620kg.m/s\\tD. 580",

        };
        char[] Answers = {'A', 'C', 'B', 'D', 'A'};//The options that will be marked
  correct
            int scores=0;// Initialize counter score

        //Display questions and wait of answers
            for (int i = 0; i < Questions.length; i++) {
                System.out.println("Question " + (i + 1) + ": " + Questions[i]);
                System.out.println("Options: " + Options[i]);
                System.out.print("Your answer (A, B, C, or D): ");
                char userAnswer = scanner.next().toUpperCase().charAt(0);//Convert
  input to uppercase character
                if (userAnswer == Answers[i]) {
                    scores++; // Increment score if the answer is correct
                }
            }

            // Calculate percentage score
            double percentageScore = (double) scores/Questions.length * 100;

            // Display final score
            System.out.println("\nQuiz completed!");
            System.out.println("You scored: " + scores + " out of " +
  Questions.length);
            System.out.println("Your percentage score: " + percentageScore + "%");

            scanner.close();

            }

}
```

Console

```
Question 1: 1. What is the S.I unit of length?
Options: A. Metres\tB. Micrometres\tC. Kilometres\tD. Hectometres
Your answer (A, B, C, or D): A
Question 2: 2. Calculate the density of 100g of water with a volume of 20cm^3>
Options: A. 2000g/cm^3\tB. 80g/cm^3\tC. 5g/cm^3\tD. 120g/cm^3
Your answer (A, B, C, or D): C
Question 3: 3. A car travels at a speed of 20m/s for 30 minutes. Calculate the distance covered after 30 minutes.
Options: A. 0.67m\tB. 36000m\tC. 600m\tD. 1.5m
Your answer (A, B, C, or D): B
Question 4: 4. An apple has a mass of 10g, calculate its weight. (Use g=10N/kg)
Options: A. 100N\tB. 1N\tC. 0.001N\tD. 0.1N
Your answer (A, B, C, or D): D
Question 5: 5. A car of mass 600kg travels at a speed of 20m/s. Calculate its momentum.
Options: A. 12000kg.m/s\tB. 30kg.m/s\tC. 620kg.m/s\tD. 580
Your answer (A, B, C, or D): A

Quiz completed!
You scored: 5 out of 5
Your percentage score: 100.0%
```