JAVA ASSIGNMENT- 6:

1.Write a Java program to calculate the final grade of a student based on their scores in assignments, midterm, and final exam.Variables: String studentName, int assignmentScore, int midtermScore, int finalExamScore,String finalGrade

Program:

```
public class CalculateFinalGrade {

    public static void main(String[] args) {

        // Test case values

        String studentName = "Alice";

        int assignmentScore = 85;

        int midtermScore = 78;

        int finalExamScore = 92;


        // Calculate the average score

        double averageScore = calculateAverage(assignmentScore, midtermScore, finalExamScore);


        // Determine the final grade based on average score

        String finalGrade = calculateFinalGrade(averageScore);


        // Output the result

        System.out.println(studentName + "'s final grade is " + finalGrade + ".");

    }


    // Method to calculate average score

    public static double calculateAverage(int assignmentScore, int midtermScore, int finalExamScore) {

        return (assignmentScore + midtermScore + finalExamScore) / 3.0;

    }
```

```
    // Method to calculate final grade based on average score
    public static String calculateFinalGrade(double averageScore) {
        if (averageScore >= 90) {
            return "A";
        } else if (averageScore >= 80) {
            return "B";
        } else if (averageScore >= 70) {
            return "C";
        } else if (averageScore >= 60) {
            return "D";
        } else {
            return "F";
        }
    }
}
```

Output:

Alice's final grade is B.

2.Write a Java program to calculate the mileage of a car given the distance traveled and fuel consumed. Variables: String carModel, double distanceTraveled, double fuelConsumed, double mileage.

Program:

```
public class CalculateMileage {

    public static void main(String[] args) {
        // Test case values
        String carModel = "Toyota Camry";
```

```
        double distanceTraveled = 300; // in miles
        double fuelConsumed = 15; // in gallons

        // Calculate the mileage
        double mileage = calculateMileage(distanceTraveled, fuelConsumed);

        // Output the result
        System.out.printf("The mileage of %s is %.1f miles per gallon.\n", carModel, mileage);
    }

    // Method to calculate mileage
    public static double calculateMileage(double distanceTraveled, double fuelConsumed) {
        return distanceTraveled / fuelConsumed;
    }
}
```

Output:

The mileage of Toyota Camry is 20.0 miles per gallon.

3. Write a Java program to calculate the fine for overdue books in a library. The fine is calculated based on the number of days overdue. Variables: String bookTitle, int daysOverdue, double finePerDay, double totalFine .

Program:

```
public class CalculateFine {

    public static void main(String[] args) {
        // Test case values
        String bookTitle = "Harry Potter";
        int daysOverdue = 5;
        double finePerDay = 0.50;

        // Calculate the total fine
        double totalFine = calculateFine(daysOverdue, finePerDay);

        // Output the result
```

```
        System.out.printf("The fine for %s is $%.2f.\n", bookTitle, totalFine);
    }

    // Method to calculate fine
    public static double calculateFine(int daysOverdue, double finePerDay) {
        return daysOverdue * finePerDay;
    }
}
```

Output:

The fine for Harry Potter is $2.50.