Java Assignments - Class and Method Practice

Assignment 1: Student Class

```
class Student {
    String name;
    int rollNumber;
    double marks;

    void displayDetails() {
        System.out.println("Name: " + name);
        System.out.println("Roll Number: " + rollNumber);
        System.out.println("Marks: " + marks);
    }

    public static void main(String[] args) {
        Student s1 = new Student();
        s1.name = "Alice";
        s1.rollNumber = 101;
        s1.marks = 88.5;
        s1.displayDetails();
    }
}
```

Assignment 2: BankAccount Class

```
class BankAccount {
    String accountNumber;
    String holderName;
    double balance;

    void deposit(double amount) {
        balance += amount;
        System.out.println(amount + " deposited.");
    }

    void withdraw(double amount) {
        if (amount <= balance) {
            balance -= amount;
            System.out.println(amount + " withdrawn.");
        } else {
            System.out.println("Insufficient balance!");
        }
    }

    void displayBalance() {
        System.out.println("Current balance: " + balance);
    }
```

```
    public static void main(String[] args) {
        BankAccount acc = new BankAccount();
        acc.accountNumber = "1234567890";
        acc.holderName = "Bob";
        acc.balance = 1000.0;

        acc.deposit(500);
        acc.withdraw(300);
        acc.displayBalance();
    }
}
```

Assignment 3: Distance Converter

```
class Converter {

    double kmToMeters(double km) {
        return km * 1000;
    }

    double metersToKm(double meters) {
        return meters / 1000;
    }

    public static void main(String[] args) {
        Converter c = new Converter();
        double km = 5;
        double meters = 1200;

        System.out.println(km + " km = " + c.kmToMeters(km) + " meters");
        System.out.println(meters + " meters = " + c.metersToKm(meters) + " km");
    }
}
```

Assignment 4: Temperature Converter

```
class TemperatureConverter {

    double celsiusToFahrenheit(double c) {
        return (c * 9/5) + 32;
    }

    double fahrenheitToCelsius(double f) {
        return (f - 32) * 5/9;
    }

    public static void main(String[] args) {
```

```
        TemperatureConverter t = new TemperatureConverter();

        double c = 25;
        double f = 77;

        System.out.println(c + "°C = " + t.celsiusToFahrenheit(c) + "°F");
        System.out.println(f + "°F = " + t.fahrenheitToCelsius(f) + "°C");
    }
}
```

Assignment 5: Circles Utility Class

```
class Circles {
    int radius;

    Circles(int radius) {
        this.radius = radius;
    }

    double getArea() {
        return Math.PI * radius * radius;
    }

    double getCircumferance() {
        return 2 * Math.PI * radius;
    }

    int getRadius() {
        return radius;
    }

    int getDiameter() {
        return 2 * radius;
    }

    public static void main(String[] args) {
        Circles circle = new Circles(7);

        System.out.println("Radius: " + circle.getRadius());
        System.out.println("Diameter: " + circle.getDiameter());
        System.out.println("Area: " + circle.getArea());
        System.out.println("Circumference: " + circle.getCircumferance());
    }
}
```