CS 103 Lab 4

Task 1 Loops

Task1.a:

```
public class Task1a {

	public static void main(String[] args) {

		int x = 5;
		for (int i = 1; i <= 10; i++) {
			System.out.println(x + " * " + i + " = " + (x * i));
		}
	}
}
```

Output:

```
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50
```

Task1.b:

```
public class Task1b {

	public static void main(String[] args) {

		for (int i = 1; i <= 5; i++) {
			for (int j = 1; j <= 5; j++) {
				System.out.println(i + " * " + j + " = " + (i * j));
			}
			System.out.println();
		}
	}

}
```

Output:

```
1 * 1 = 1
1 * 2 = 2
1 * 3 = 3
1 * 4 = 4
```

```
1 * 5 = 5

2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10

3 * 1 = 3
3 * 2 = 6
3 * 3 = 9
3 * 4 = 12
3 * 5 = 15

4 * 1 = 4
4 * 2 = 8
4 * 3 = 12
4 * 4 = 16
4 * 5 = 20

5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
```

Task 2

Task2.a:

```
public class Task2a {

	public static final double PI = 3.14;

	public static double r = 5.0;
	public static double degrees = 30.0;


	public static void calculateArea() {
		System.out.println("Area: " + (PI * r * r));
	}

	public static void calculateCircumference() {
		System.out.println("Circumference: " + (2 * PI * r));
	}

	public static void convertDegreeToRadian() {
		System.out.println("Radian: " + (degrees * PI / 180.0));
	}
```

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

		calculateArea();
		calculateCircumference();
		convertDegreeToRadian();

	}

}
```

Output:
Area: 78.5
Circumference: 31.400000000000002
Radian: 0.5233333333333333

Task2.b:

```
public class Task2b {

	public static final double PI = 3.14;

	public static double r = 5.0;
	public static double degrees = 30.0;
	public static double y = 15.0;

	public static void calculateArea() {
		System.out.println("Area: " + (PI * r * r));
	}

	public static void calculateCircumference() {
		System.out.println("Circumference: " + (2 * PI * r));
	}

	public static void convertDegreeToRadian() {
		System.out.println("Radian: " + (degrees * PI / 180.0));
	}

	public static void changeRadius() {
		r = 20.0;
		int y = 55;
		System.out.println("r: " + r);
		System.out.println("y: " + y);
	}

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

```
                calculateArea();
                calculateCircumference();
                convertDegreeToRadian();

                System.out.println();

                changeRadius();

                System.out.println("r:"+r);
                System.out.println("y:"+y);



        }

}
```

Output:
Area: 78.5
Circumference: 31.400000000000002
Radian: 0.5233333333333333

r: 20.0
y: 55

r: 20.0
y:15.0