Assignment_02

```
1. Printing Patterns
import java.util.Scanner;

public class TrianglePattern {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();

        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
2. Remove Array Duplicates
import java.util.Arrays;

public class RemoveDuplicates {
    public static int removeDuplicates(int[] arr) {
        if (arr.length == 0) return 0;
        int j = 0;
        for (int i = 1; i < arr.length; i++) {
            if (arr[i] != arr[j]) {
                j++;
                arr[j] = arr[i];
            }
        }
        return j + 1;
    }

    public static void main(String[] args) {
        int[] arr = {1, 1, 2};
        int newLength = removeDuplicates(arr);
        System.out.println(newLength);
    }
}
3. Remove White Spaces from String
import java.util.Scanner;

public class RemoveWhiteSpaces {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String input = sc.nextLine();

        String result = input.replaceAll("\\s", "");
        System.out.println(result);
    }
}
 4. Reverse a String
 import java.util.Scanner;

public class ReverseString {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
```

```
        String input = sc.nextLine();

        String reversed = new StringBuilder(input).reverse().toString();
        System.out.println(reversed);
    }
}
```

5. Reverse Array in Place

```
import java.util.Arrays;
import java.util.Scanner;

public class ReverseArray {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int[] arr = {1, 2, 3, 4};

        int left = 0, right = arr.length - 1;
        while (left < right) {
            int temp = arr[left];
            arr[left] = arr[right];
            arr[right] = temp;
            left++;
            right--;
        }

        System.out.println(Arrays.toString(arr));
    }
}
```

7. Reverse a Number

```
import java.util.Scanner;

public class ReverseNumber {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int number = sc.nextInt();
        int reversed = 0;

        while (number != 0) {
            int digit = number % 10;
            reversed = reversed * 10 + digit;
            number /= 10;
        }

        System.out.println(reversed);
    }
}
```

9. String Palindrome

```
import java.util.Scanner;

public class PalindromeCheck {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String input = sc.nextLine();
        String reversed = new StringBuilder(input).reverse().toString();

        boolean isPalindrome = input.equals(reversed);
        System.out.println(isPalindrome);
    }
}
```