practice problem:

Check if a string is a palindrome:

```
package problrm_solve;

import java.util.Scanner;

public class problem1 {
    //public void pal (String s){
    public static boolean  pal(String s ){

        int left = 0 ;
        int right = s.length()-1;
        while( left<right){
            if (s.charAt(left) != s.charAt(right)){
                return false;
            }
//            else {
                left++;
                right--;

//            }
        }
       return true;

    }

    public static void main(String[] args) {
        problem1 pm = new problem1();
        Scanner sc = new Scanner(System.in);
        for ( ; ; ) {
            System.out.println("Enter the word: ");
            String ss = sc.nextLine();
            pm.pal(ss);
        if (pal(ss)){
            System.out.println( ss  + " : This is palindrom");
        }
        else {
            System.out.println(ss + ": This is not palindrom");
        }


        }
    }
}
```

Calculate the factorial of a number:

```
package problrm_solve;

import javax.script.ScriptContext;
import java.util.Scanner;

public class problem2 {
    public void fact(int x){
        int mul = 1;
        while (  x>=1) {

             mul = mul * x;
             x--;
        }
        System.out.println(" The factorial value is : " + mul );

    }

    public static void main(String[] args) {
        problem2 pm = new problem2();
        Scanner sc = new Scanner(System.in);
        System.out.println(" Enter any number: ");
        int sp = sc.nextInt();
        pm.fact(sp);
    }
}
```

Find the Fibonacci series up to a given number of terms:

```
package problrm_solve;

import java.util.Scanner;

public class problem3 {
    public void fib(int x){
      int  sum1 = 0 ;
      int sum2 = 1;
      int sum3 ;

        System.out.print("1");
        for (int y = 1 ; y<= x; y++){
           sum3 = sum1 + sum2;
           sum1 = sum2;
           sum2 = sum3;

            System.out.print( ", "+ sum3 );

        }
```

```
    }

    public static void main(String[] args) {
        problem3 p3 = new problem3();
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number which till you want a Fibonacci serise: ");
        int sp = sc.nextInt();
        System.out.println("The Fibonacci series is: ");
        p3.fib(sp);

    }
}
```

Check if a number is prime:

```
package problrm_solve;
import java.util.Scanner;
public class problem4 {
    public static boolean prime(int n) {
        if(n == 1){
            return false;
        }
        for (int x = 2; x < n; x++) {
            if (n % x == 0) {
                return false;
            }
        }
        return true;
    }
    public static void main(String[] args) {
            problem4 pm4 = new problem4();
            Scanner ss = new Scanner(System.in);
            for( ; ; ) {
                System.out.println("Input a number:");
                int s = ss.nextInt();
                pm4.prime(s);
                if (prime(s)) {
                    System.out.println("this is a prime number");
                } else {
                    System.out.println("this is not prime number");

                }
            }
        }
    }
```

find the prime number upto the given number:

```
package problrm_solve;
import java.util.Scanner;
public class problem5 {
    public static boolean prime(int n) {
        if(n == 1){
            return false;
        }
        for (int x = 2; x < n; x++) {
            if (n % x == 0) {
                return false;
            }
        }
        return true;
    }
    public static void main(String[] args) {
        problem5 pm4 = new problem5();
        Scanner ss = new Scanner(System.in);

            System.out.println("Input a number:");
            int s = ss.nextInt();
            for (int i=1 ; i<= s ; i++) {
                pm4.prime(i);
                if (prime(i)) {
                    System.out.println(i + "  is a prime number");
                } else {
                    System.out.println(i + "  is not prime number");

                }
            }
    }
}
```

Find the largest element in an array:

```
package problrm_solve;
import java.util.Arrays;
public class problem6 {

        public static int getLargest(int[] a, int total){
            Arrays.sort(a);
            return a[total-1];
        }
        public static void main(String args[]){
            int a[]={1,2,5,6,3,2};
            int b[]={44,66,99,77,33,22,55};
            System.out.println("Largest: "+getLargest(a,6));
            System.out.println("Largest: "+getLargest(b,7));
        }}
```

or,

```
package problrm_solve;

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

public class problem6 {

    public static void array(int[] array) {
        System.out.println("the array is : " + Arrays.toString(array));
        int largest = array[0];
        for (int i = 1; i < array.length; i++) {
            if (array[i] > largest) {
                largest = array[i];
            }
        }
        System.out.println("The largest number is:" + largest);
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("the range for array:");
        int n = sc.nextInt();
        int[] array = new int[n];
        System.out.println("the values for array:");
        for (int i = 0; i < n; i++) {
            array[i] = sc.nextInt();
        }
        array(array);
    }
}
```

Count the number of vowels in a string:

```
package problrm_solve;

import java.util.Scanner;

public class problem7 {
    public void count(String str){
        int sum=0;
        for(int i=0; i<str.length(); i++){
         char ch;
            ch = str.charAt(i);
            if(ch=='a' || ch=='e'|| ch=='i'|| ch=='o'|| ch=='u'){
             sum++;
         }
        }
```

```
        System.out.println("total vowel is : " + sum);
    }

    public static void main(String[] args) {
        problem7 pm7= new problem7();
        Scanner sc = new Scanner(System.in);
        for( ; ; ) {
            String s = sc.nextLine();

            pm7.count(s);
        }
    }
}
```

or,

```
public class CountVowels {

    public static void main(String[] args) {
        String str = "Hello, world!";
        int count = 0;
        for (int i = 0; i < str.length(); i++) {
            char ch = str.charAt(i);
            if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
                count++;
            }
        }
        System.out.println("The number of vowels in the string is: " + count);
    }
}
```