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Template

Implement a generic program using any collection class to count the number of elements in a

collection that have a specific property such as even numbers, odd number, prime number and

palindromes.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*PROGRAM\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

import java.util.Scanner;

class HelloWorld {

public static <T> void EvenOdd(T a) {

int num = (int)a;

if(num % 2 == 0) {

System.out.println("Given Number is Even.");

} else {

System.out.println("Given Number is Odd.");

}

}

public static <T> void PrimeNumber(T b) {

int num1 = (int)b;

boolean IsPrime = true;

if(num1 == 0 || num1 == 1) {

IsPrime = false;

}

else {

for(int i = 2; i <= Math.sqrt(num1); i++) {

if(num1 % i == 0) {

IsPrime = false;

break;

}

}

}

if(IsPrime) {

System.out.println("Given Number is Prime.");

} else {

System.out.println("Given Number is Composite.");

}

}

public static <T> void Pallindrome(T c) {

int a = (int)c;

int sum = 0;

while(a > 0) {

int b = a % 10;

sum = sum \* 10 + b;

a = a / 10;

}

System.out.println("reverse no is " + sum);

if((int)c== sum) {

System.out.println("The number " + c + " is a Palindrome.");

} else {

System.out.println("The number " + c + " is not a Palindrome.");

}

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter number for checking Even and Odd no:");

int n = sc.nextInt();

EvenOdd(n);

System.out.println(" ");

System.out.println("Enter no for checking Prime and composite no");

int n1 = sc.nextInt();

PrimeNumber(n1);

System.out.println(" ");

System.out.println("Enter number for checking Pallindrome no:");

int n2 = sc.nextInt();

Pallindrome(n2);

System.out.println(" ");

}

}

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter number for checking Even and Odd no:

45

Given Number is Odd.

Enter number for checking Prime and composite no:

22

Given Number is Composite.

Enter number for checking Pallindrome no:

121

reverse no is 121

The number 121 is a Palindrome.