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**\* Batch: D**

**\* Assignment No: 7**

**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.\*/**

**/\* static boolean isPrime(int num) {**

**for (int i = 2; i < num; i++) {**

**if (num % i == 0) {**

**return false;**

**}**

**}**

**return true;**

**}\*/**

**public class Mauli7GenericclassDemo**

**{**

**static boolean isPrime(int num)**

**{**

**int flag = 0;**

**for(int i = 2; i<num; i++)**

**if(num % i == 0)**

**{**

**flag = 1;**

**break;**

**}**

**if(flag == 0)**

**return true;**

**return false;**

**}**

**static <T> void count(String type, T[] element)**

**{**

**int even = 0, odd = 0, prime = 0, palin = 0;**

**if(type.equals("even"))**

**{**

**for (T value : element)**

**if(Integer.parseInt(value.toString()) % 2 == 0)**

**even++;**

**System.out.println("Total Even: "+even);**

**}**

**if(type.equals("odd"))**

**{**

**for (T value : element)**

**if(Integer.parseInt(value.toString()) % 2 != 0)**

**odd++;**

**System.out.println("Total Odd: "+odd);**

**}**

**if(type.equals("prime"))**

**{**

**for (T value : element)**

**if(isPrime(Integer.parseInt(value.toString())))**

**prime++;**

**System.out.println("Total Prime: "+prime);**

**}**

**if(type.equals("palindrome"))**

**{**

**for (T value : element)**

**{**

**StringBuffer rev = new StringBuffer(value.toString());**

**if(value.toString().equals(new String(rev.reverse())))**

**palin++;**

**}**

**System.out.println("Total Palindrome: "+palin);**

**}**

**}**

**public static void main(String[] args)**

**{**

**Integer iarray[] = {45, 7, 12, 84, 38, 115, 29, 30, 19};**

**count("even", iarray);**

**Byte barray[] = {45, 7, 12, 84, 38, 115, 29, 30, 19};**

**count("even", barray);**

**Short sarray[] = {45, 73, 12, 84, 38, 151, 29, 30, 19};**

**Long larray[] = {45L, 73L, 12L, 84L, 38L, 151L, 29L, 30L, 19L};**

**count("even", larray);**

**count("odd", sarray);**

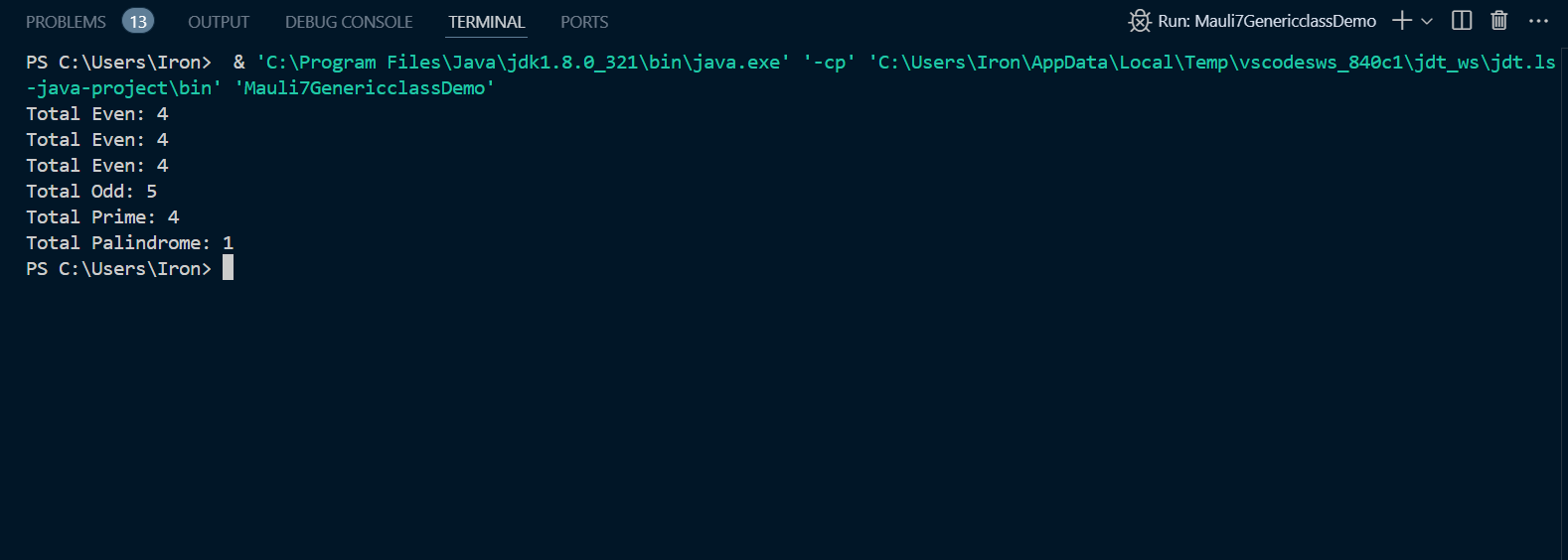
**count("prime", larray);**

**count("palindrome", sarray);**

**}**

**}**

**OUTPUT:**

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