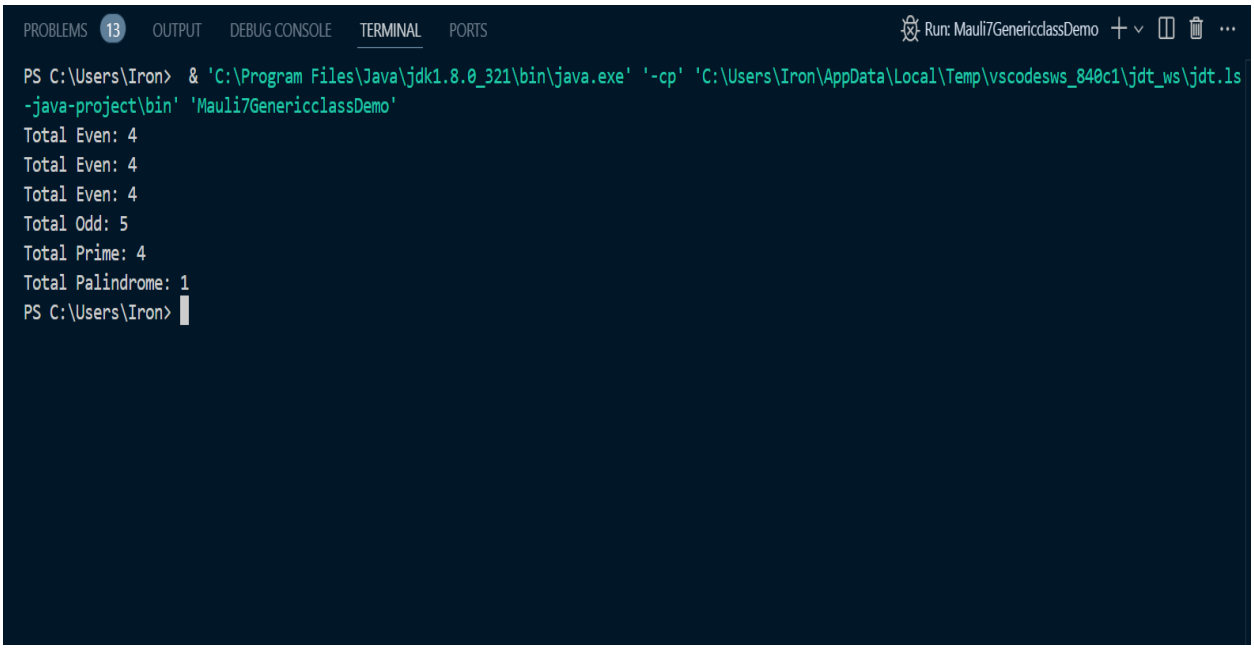
*** Assignment No: 7**
Implement a generic program using any collection class to count the number of elements in a collection that have a specific property such as even numbers, odd number, prime number and palindromes.*/

```
/* 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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OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Run: Mauli7GenericclassDemo
PS C:\Users\Iron> & 'C:\Program Files\Java\jdk1.8.0_321\bin\java.exe' '-cp' 'C:\Users\Iron\AppData\Local\Temp\vscodesws_840c1\jdt_ws\jdt.ls-java-project\bin' 'Mauli7GenericclassDemo'
Total Even: 4
Total Even: 4
Total Even: 4
Total Odd: 5
Total Prime: 4
Total Palindrome: 1
PS C:\Users\Iron>