Program-1:

import java.util.Scanner;

public class DataTypeChecker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the number of test cases: ");

int t = scanner.nextInt();

for (int i = 0; i < t; i++) {

try {

long n = scanner.nextLong();

System.out.println(n + " can be fitted in:");

if (n >= -128 && n <= 127) System.out.println("\* byte");

if (n >= -32768 && n <= 32767) System.out.println("\* short");

if (n >= -2147483648L && n <= 2147483647L) System.out.println("\* int");

if (n >= -9223372036854775808L && n <= 9223372036854775807L) System.out.println("\* long");

} catch (Exception e) {

System.out.println(scanner.next() + " can't be fitted anywhere.");

}

}

}

}