public class missingDigit {

public static void main(String[] args) {

getMissingString();

}public static void getMissingString() {

String str = "X-5000=5000";

String[] split = str.split("=");

getMissingValue(split); }

private static Integer getMissingValue(String[] s) {

String calucatedX = null;

String Xvalue = null;

String actualValue = null;

if (s[0].contains("\*") || s[1].contains("\*")) {

if (s[0].contains("X")) { if (s[0].contains("\*")) {

String[] split = s[0].split("\\\*");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[1]), Integer.valueOf(splitValue), "div"));

} else {

String[] split = s[1].split("\\\*");

Xvalue = s[0];

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "mult")); } }

if (s[1].contains("X")) {

if (s[1].contains("\*")) {

{ String[] split = s[1].split("\\\*");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[0]), Integer.valueOf(splitValue), "div")); } } else {

Xvalue = s[1];

String[] split = s[0].split("\\\*");

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "mult")); } } }

if (s[0].contains("-") || s[1].contains("-")) {

if (s[0].contains("X")) {

if (s[0].contains("-")) {

String[] split = s[0].split("\\-");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[1]), Integer.valueOf(splitValue), "add")); } else {

String[] split = s[1].split("\\-");

Xvalue = s[0];

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "sub")); } }

if (s[1].contains("X")) {

if (s[1].contains("-")) {

{

String[] split = s[1].split("\\-");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[0]), Integer.valueOf(splitValue), "add")); } } else {

Xvalue = s[1];

String[] split = s[0].split("\\-");

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "sub")); } } }

if (s[0].contains("/") || s[1].contains("/")) {

if (s[0].contains("X")) {

if (s[0].contains("/")) {

String[] split = s[0].split("\\/");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[1]), Integer.valueOf(splitValue), "mult")); } else {

String[] split = s[1].split("\\/");

Xvalue = s[0];

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "div")); } }

if (s[1].contains("X")) {

if (s[1].contains("/")) {

{ String[] split = s[1].split("\\/");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[1]), Integer.valueOf(splitValue), "mult")); } } else {

Xvalue = s[1];

String[] split = s[0].split("\\/");

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "div")); } } }

if (s[0].contains("+") || s[1].contains("+")) {

if (s[0].contains("X")) {

if (s[0].contains("+")) {

String[] split = s[0].split("\\+");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[1]), Integer.valueOf(splitValue), "sub")); } else {

String[] split = s[1].split("\\+");

Xvalue = s[0];

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "add")); } }

if (s[1].contains("X")) {

if (s[1].contains("+")) {

{ String[] split = s[1].split("\\+");

String splitValue = getSplitValue(split);

Xvalue = getXValue(split);

actualValue = String.valueOf(calc(Integer.valueOf(s[0]), Integer.valueOf(splitValue), "sub")); } } else {

Xvalue = s[1];

String[] split = s[0].split("\\+");

actualValue = String.valueOf(calc(Integer.valueOf(split[0]), Integer.valueOf(split[1]), "add"));

} } }

for (int i = 0; i < actualValue.length(); i++) {

boolean b = actualValue.charAt(i) == Xvalue.charAt(i);

if (!b) { int j = 1 + actualValue.length() - Xvalue.length();

calucatedX = actualValue.substring(i, i + j);

System.out.println(calucatedX);

break; } }

return Integer.valueOf(calucatedX); }

private static String getSplitValue(String[] split) {

if (split[0].contains("X")) {

return split[1]; } else {

return split[0]; } }

private static String getXValue(String[] split) {

if (split[0].contains("X")) {

return split[0]; } else {

return split[1]; } }

static Integer calc(Integer a, Integer b, String type) {

switch (type) {

case "add":

return a + b; case "sub": return a - b; case "div": return a / b; case "mult": return a \* b; }return a; }}