1. Given an input integer, you must determine which primitive data types are capable of properly storing that input.

Input Format

The first line contains an integer, , denoting the number of test cases.

Each test case, , is comprised of a single line with an integer, , which can be arbitrarily large or small.

Output Format

For each input variable and appropriate primitive , you must determine if the given primitives are capable of storing it. If yes, then print: n can be fitted in:* dataType

If there is more than one appropriate data type, print each one on its own line and order them by size (i.e.: ).

If the number cannot be stored in one of the four aforementioned primitives, print the line:

n can't be fitted anywhere.

Sample Input

5

-150

150000

1500000000

213333333333333333333333333333333333

-100000000000000

Sample Output

-150 can be fitted in:

* short

* int

* long

150000 can be fitted in:

* int

* long

1500000000 can be fitted in:

* int

* long

213333333333333333333333333333333333 can't be fitted anywhere.

-100000000000000 can be fitted in:

* long

Coding:

```
import java.util.*;
public class datatypecheck{
public static void main(String[] args){
Scanner s=new Scanner(System.in);
int t=s.nextInt();
for(int i=0;i<t;i++){
long num=s.nextLong();
System.out.println(num + "can be fitted in:");
if(num>=-128 && num<=127){
System.out.println("*byte");
}
if(num>=-32768 && num<=32768){
System.out.println("*short");
```

```
}
if(num>=-2147483648L && num<=2147483648L ){
System.out.println("*int");
}
if(num>=-922337203685477808L && num<= 922337203685477808L ){
System.out.println("*long");
}
}
s.close();
}
}
```

Output:

Command Prompt

```
C:\Users\admin>e:

E:\>cd javacode.java

E:\javacode.java>cd 8-10-2024

E:\javacode.java\8-10-2024>javac datatypecheck.java

E:\javacode.java\8-10-2024>java datatypecheck
5
-150
-150can be fitted in:
*short
*int
*long
150000
150000can be fitted in:
*int
*long
150000000
150000000can be fitted in:
*int
*long
```