## O-Quadrilaterals

You are given four points in a plane. Find out which type of a quadrilateral is determined by these 4 points.

If several types of quadrilaterals are possible, provide only one name, chosen according to the following list of priorities:

1. Square
2. Rectangle
3. Rhombus
4. Rhomboid
5. Kite
6. Trapezoid
7. Convex - Convex quadrilateral which cannot be classified as one of those listed above.
8. Dart - Concave two pairs with equal neighboring sides (like a kite but concave)
9. Concave - Concave quadrilateral which cannot be classified as a dart.
10. None - Three or more points are collinear or two or more points are the same.

## Input

The first line contains an integer $T$, the number of test cases ( $T<=10000$ ).
In the next $T$ lines there are eight integers in each line: $A x, A y, B x, B y, C x, C y, D x, D y$. All coordinates are between $-10^{\wedge} 9$ and $10^{\wedge} 9$, inclusive. For quadrilaterals which match any of the types 1 to 9 , the points of quadrilaterals will be ordered anticlockwise.

## Output

For every test, write which kind of quadrilateral is determined by these four points.

## Example

## Input:

10
00112202
001-12011
$001-22012$
001-12012
00112012
20320300
00113012
32020030
00111304
006243 -2 1

## Output:

None
Square
Rhombus
Kite
Dart

Explanation: in the second test, the conditions for all types of convex quadrilaterals are matched. Since the square is the first in the priority list above, the correct answer is "Square".

## Scoring

There are five set of tests, each set worth 2 points
Set 1 - first two types of quadrilaterals only, $T=20$.
Set 2 - parallelograms only, $T=100$.
Set 3 - convex types of quadrilaterals only, $T=500$.
Set 4 - all types, $T=1000$.
Set 5 - all types, $T=10000$.

