

---

## 11. Vector Addition

**Program Name:** Vectors.java

**Input File:** vectors.dat

A mathematician's definition of a two-dimensional vector in the Cartesian plane is an ordered pair  $(x,y)$  of real numbers. A frequent operation with vectors is addition. The vector sum, or resultant, of two or more vectors is found by adding the x-component of each vector to find the x-coordinate of the resultant and by adding the y-component of each vector to find the y-coordinate of the resultant. The resultant is then reported as an ordered pair,  $(x,y)$ .

### Input

The first line of input will contain a single integer  $n$  that indicates the number of vector addition problems to follow. Each of the following  $n$  lines will contain one problem for which you will find the resultant sum of two or more displacement vectors. Each displacement vector will be in the form  $(x, y)$  and separated by a single space.

### Output

For each problem, you will print the resultant vector in the form  $(x, y)$  on a single line with no spaces.

### Example Input File

```
3
(3, 4) (-1, 3)
(5, 2) (-6, 0) (6, -2)
(19, 12) (4, -2) (5, 6) (1, 4)
```

### Output to Screen

```
(2, 7)
(5, 0)
(29, 20)
```