

### Problem 1: Sort 2 sorted subarray

```
[(base) rishusingh@Rishus-MacBook-Pro Downloads % Python MergeSortArray.py]

Testcase 1:
Array [3, 7, 9]
Sorted array [3, 7, 9]

Testcase 2:
Array [2 7 9 1]
Sorted array [1 2 7 9]

Testcase 3:
Array [ 1 7 10 15 3 8 12 18]
Sorted array [ 1 3 7 8 10 12 15 18]

Testcase 4:
Array [ 5 5 6 8 10 12 16 17 17 20 25 28 1 3 5 5 15 18 21]
Sorted array [ 1 3 5 5 5 5 6 8 10 12 15 16 17 17 18 20 21 25 28]
(base) rishusingh@Rishus-MacBook-Pro Downloads %
```

### Problem 2:

#### Ala Carte

```
[(base) rishusingh@Rishus-MacBook-Pro Downloads % python AlaCarte.py]

Testcase 1:
x = 7000 y = 7294
x*y = 51058000

Testcase 2:
x = 25 y = 5038385
x*y = 125959625

Testcase 3:
x = -59724 y = 783
x*y = -46763892

Testcase 4:
x = 8516 y = -82147953548159344
x*y = -699571972416124973504

Testcase 5:
x = 45952456856498465985 y = 98654651986546519856
x*y = 4533423639104649634397093450504343098160

Testcase 6:
x = -45952456856498465985 y = -98654651986546519856
x*y = 4533423639104649634397093450504343098160
(base) rishusingh@Rishus-MacBook-Pro Downloads %
```

## Rectangular

```
(base) rishusingh@Rishus-MacBook-Pro Downloads % python Rectangular.py
```

```
Testcase 1:
```

```
x = 7000 y = 7294
```

```
x*y = 51058000
```

```
Testcase 2:
```

```
x = 25 y = 5038385
```

```
x*y = 125959625
```

```
Testcase 2:
```

```
x = -59724 y = 783
```

```
x*y = -46763892
```

```
Testcase 4:
```

```
x = 8516 y = -82147953548159344
```

```
x*y = -699571972416124973504
```

```
Testcase 5:
```

```
x = 45952456856498465985 y = 98654651986546519856
```

```
x*y = 4533423639104649634397093450504343098160
```

```
Testcase 6:
```

```
x = -45952456856498465985 y = -98654651986546519856
```

```
x*y = 4533423639104649634397093450504343098160
```

```
(base) rishusingh@Rishus-MacBook-Pro Downloads %
```