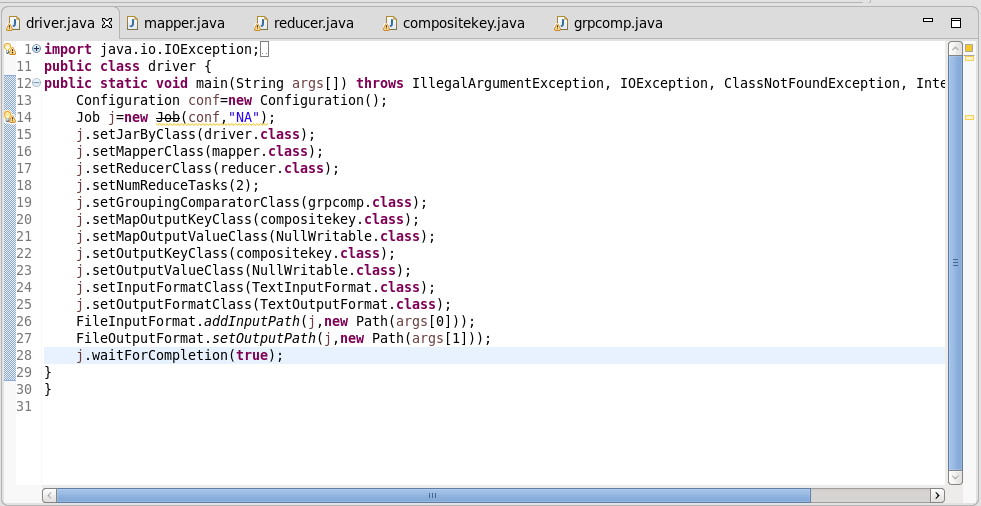
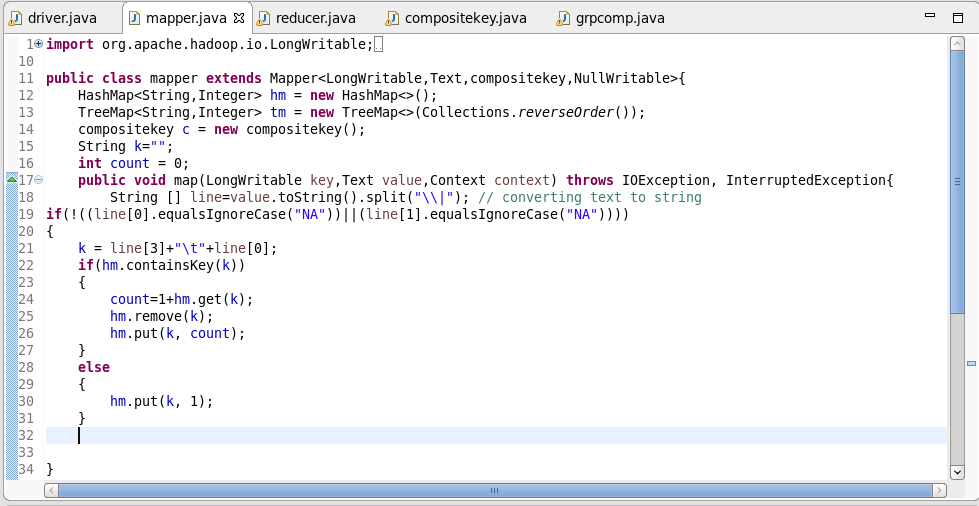
**20.2 Enhance the task 8 (refer session 19, assignment 1) to calculate the top 3 state-wise sales for each company. You may use multiple reducers for this activity.**

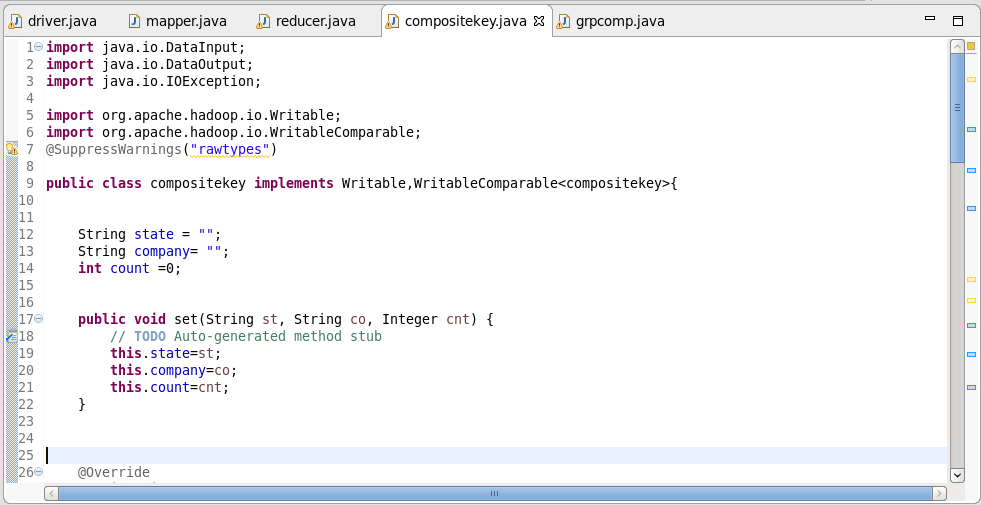
**DRIVER CLASS:**

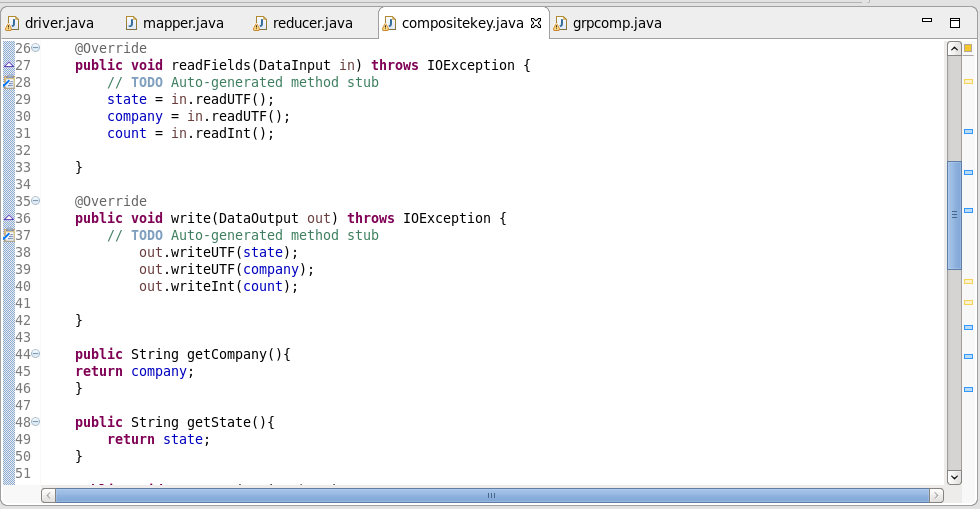
****

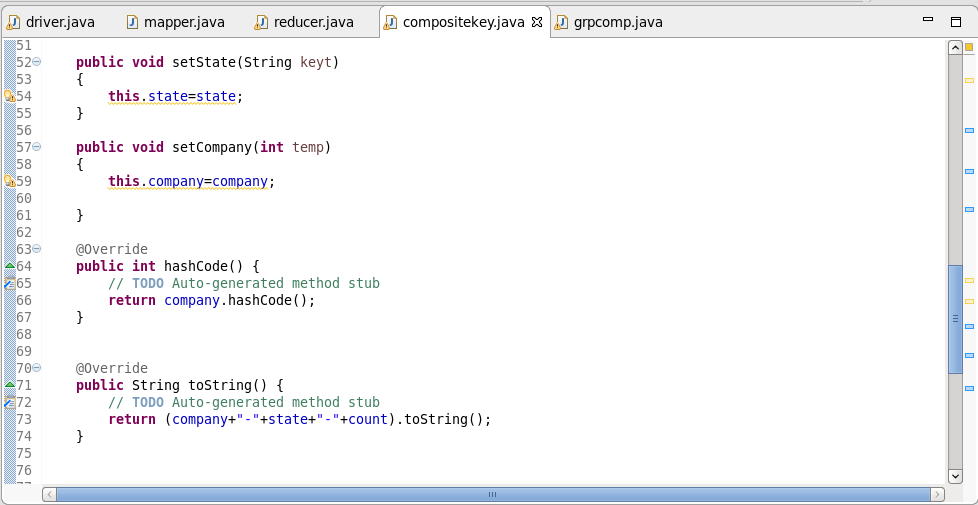
**MAPPER CLASS:**

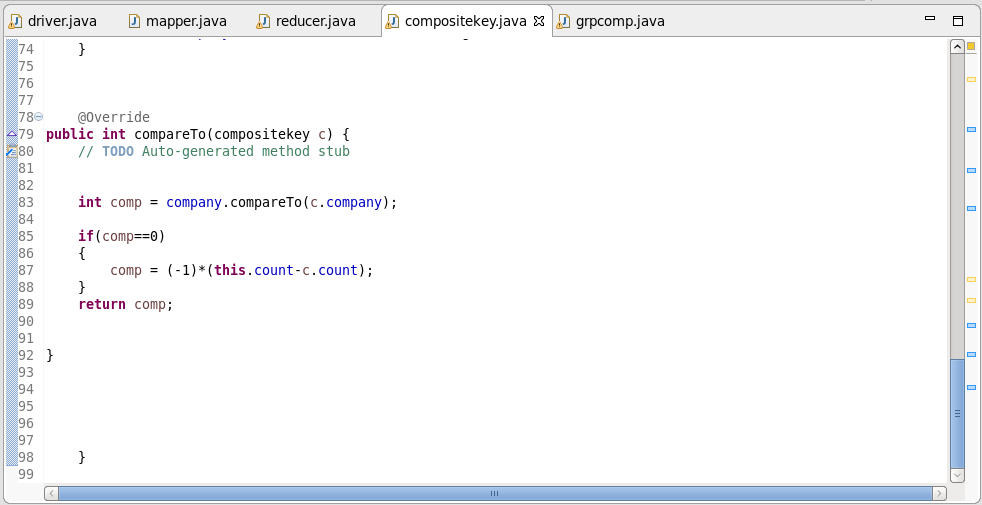
****

**COMPOSITEKEY CLASS:**

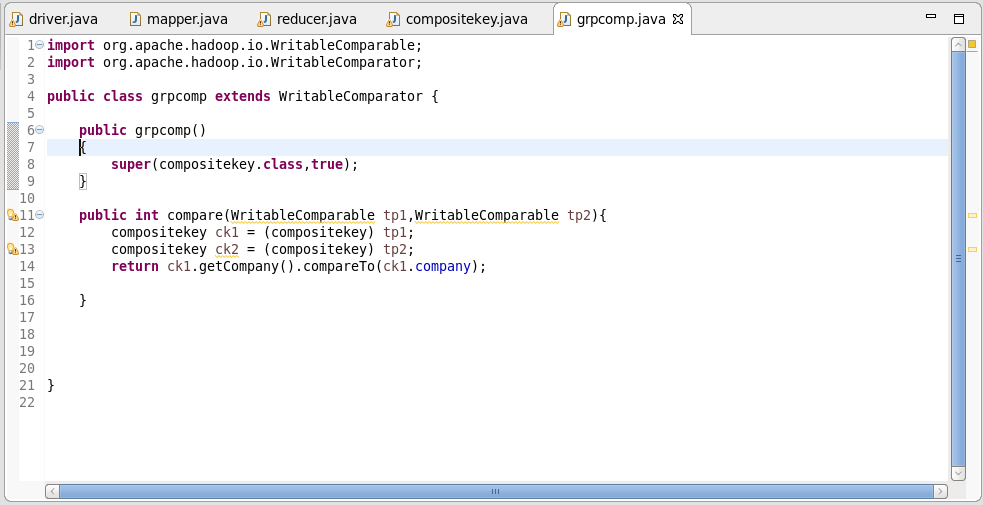
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**GROUP COMPARATOR:**

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* In the map method of the mapper, the input data is split by “ | ”.
* I’ve used hash map in mapper. If the key is already present in the hash map, the count will be increased by 1.
* Now we have the company and state as key and total unit sold as value in hashmap
* company, city, count are passed to composite key as key and nullwritable as value

**Overriding hashcode():**

* Since multiple reducers are used it is necessary that a particular company should go to particular reducer.
* Since default hash modulo partitioner is used. In hash code method, company is sent.

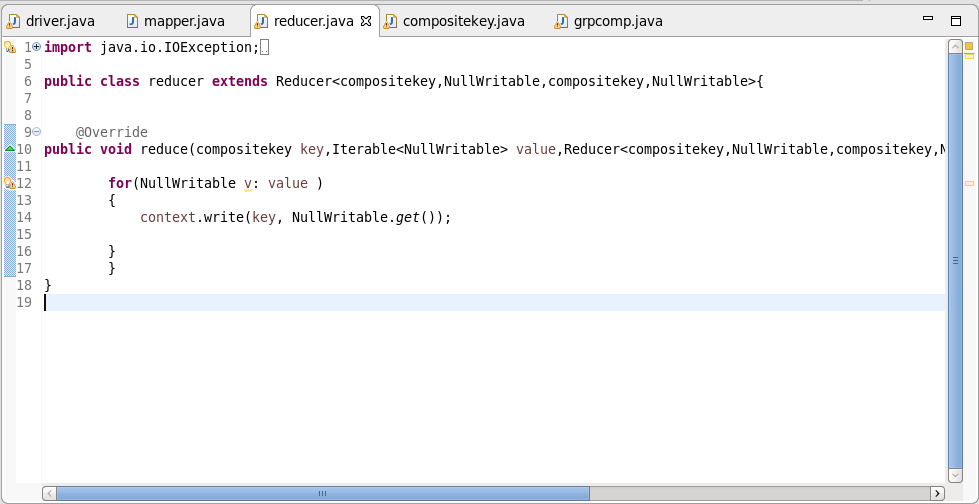
**Overriding compareto() methods:**

By default it orders by ascending order, hence we multiply by -1 to get it ordered in descending order

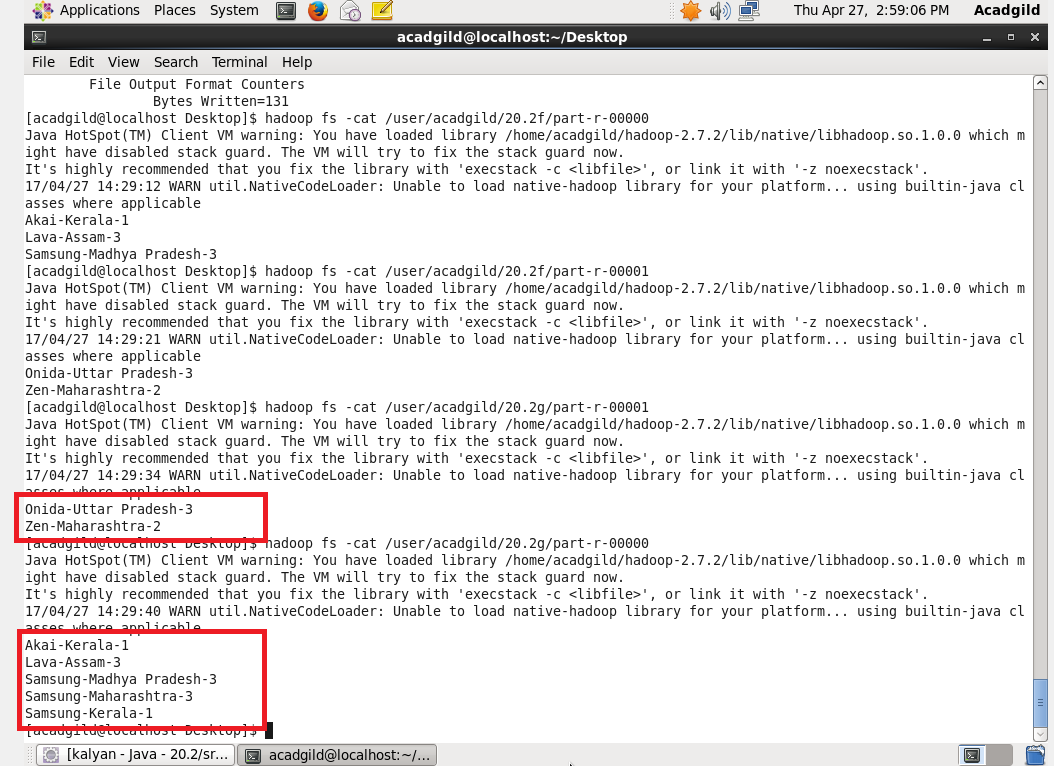
**Overriding ToString():**

displays the company, state ,sales.

**REDUCER CLASS:**

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**OUTPUT:**

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