

e) Calculate the average tips to revenue ratio of the drivers for different pickup locations in sorted format.

```
from mrjob.job import MRJob

class VendorDetails(MRJob):

    def mapper(self, _, line):
        # Skip the header line with column names
        if not line.startswith('VendorID'):
            fields = line.split(',')
            pickup_location = fields[7]
            total_revenue = float(fields[16])
            tips = float(fields[13])
            yield pickup_location, (tips, total_revenue)

    def combiner(self, pickup_location, tips_per_revenue):
        total_tips = 0
        total_revenue = 0
        for tips, revenue in tips_per_revenue:
            total_tips += tips
            total_revenue += revenue
        yield pickup_location, (total_tips, total_revenue)

    def reducer(self, pickup_location, tips_per_revenue):
        total_tips = 0
        total_revenue = 0
        for tips, revenue in tips_per_revenue:
            total_tips += tips
            total_revenue += revenue
        average_tips_to_revenue_ratio = total_tips / total_revenue
        yield pickup_location, average_tips_to_revenue_ratio

if __name__ == '__main__':
    VendorDetails.run()
```