

These questions are based on the Udacity course “Intro to Hadoop and MapReduce”.

1. Provide your solution to making the Mapper code more defensive:

```
1  #!/usr/local/bin/python
2
3  import sys
4
5  # read standard input line by line
6  for line in sys.stdin:
7      # strip off extra whitespace, split on tab
8      # and put the data in an array
9      data = line.strip().split("\t")
10
11     # This is the place you need to do some defensive programming
12     # what if there are not exactly 6 fields in that line?
13     # YOUR CODE HERE
14
15
16
17
18     # this next line is called 'multiple assignment' in Python
19     # this is not really necessary, we could access the data
20     # with data[2] and data[5], but we do this for conveniency
21     # and to make the code easier to read
22     date, time, store, item, cost, payment = data
23
24     # Now print out the data that will be passed to the reducer
25     print "{0}\t{1}".format(store, cost)
```

2. Complete the matching Reducer code:

```
1  #!/usr/local/bin/python
2
3  import sys
4
5  salesTotal = 0
6  oldKey = None
7
8  for line in sys.stdin:
9      data = line.strip().split("\t")
10     if len(data) != 2:
11         continue
12
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```

To test your solution, download the file `purchases.tgz` from GitHub¹, unpack it and copy the file `purchases.txt` into the miniHive Docker container. Then run the following command inside the miniHive Docker container:

```
cat purchases.txt | python mapper.py | sort | python reducer.py
```

¹<https://github.com/sds-uni-p/sds-artifacts/tree/main>