Mapper				Partitioner		Shuffle and Sort		Group Comparator		Reducer			
Input		Output		Input	Output	Input	Output	Input	Output	Input		Output	
Offset: Object	Line:Text	{dept, course, student, count}:MyKey	Average: DoubleWritable	Paritioned by Key's dept	Output	Sorted by 1st: Name, 2nd: Course	Output	Grouped by Name	Output	{dept, course, student, count}:MyKey	Average: DoubleWritable	NullWritable	Value:Text
NA	2015,CS,CS526,Peter,10,10,10,8,9	CS,CS526,Peter,5	9.4	BUS,BUS360,Lily,5	8	BUS,BUS360,Lily,5	8	BUS,BUS360,Lily,5	8	BUS,BUS360,Lily,5	8		Lily,BUS360,8.0
NA	2015,CS,CS557,Peter,10,8,10,8,9	CS,CS557,Peter,5	9	BUS,BUS557,Nancy	9	BUS,BUS532,Lily,5	7.8	BUS,BUS532,Lily,5	7.8	BUS,BUS532,Lily,5	7.8		Lily,BUS532,7.8
NA	2015,BUS,BUS360,Lily,6,7,10,8,9	BUS,BUS360,Lily,5	8	BUS,BUS532,Lily,5	7.8	BUS,BUS557,Nancy	9						Overall Average: 7.9
NA	2015,CS,CS480,Tom,3,7,5,8	CS,CS480,Tom,4	5.75					BUS,BUS557,Nancy	9	BUS,BUS557,Nancy	9		Nancy,BUS557,9.0
NA	2015,CS,CS536,Peter,10,10,10,8,9	CS,CS536,Peter,5	9.4	CS,CS526,Peter,5	9.4	CS,CS526,Jimmy,5	9.4						Overal Average: 9.0
NA	2015,CS,CS532,Tom,6,6,10,8,9	CS,CS532,Tom,5	7.8	CS,CS557,Peter,5	9	CS,CS480,Larry,5	8						
				CS,CS480,Tom,4	5.75	CS,CS526,Peter,5	9.4	CS,CS526,Jimmy,5	9.4	CS,CS526,Jimmy,5	9.4		Jimmy,CS526,9.4
NA	2016,CS,CS526,Jimmy,10,10,10,8,9	CS,CS526,Jimmy,5	9.4	CS,CS536,Peter,5	9.4	CS,CS536,Peter,5	9.4						Overall Average: 9.4
NA	2016,BUS,BUS557,Nancy,10,8,10,8,9	BUS,BUS557,Nancy	9	CS,CS532,Tom,5	7.8	CS,CS557,Peter,5	9	CS,CS480,Larry,5	8	CS,CS480,Larry,5	8		Larry,CS480,8.0
NA	2016,CS,CS480,Larry,6,7,10,8,9	CS,CS480,Larry,5	8	CS,CS526,Jimmy,5	9.4	CS,CS570,Peter,5	9.4						Overall Average: 8.0
NA	2016,CS,CS480,Tim,3,7,5,8,9	CS,CS480,Tim,5	6.4	CS,CS480,Larry,5	8	CS,CS480,Tim,5	6.4	CS,CS526,Peter,5	9.4	CS,CS526,Peter,5	9.4		Peter,CS526,9.4
NA	2016,CS,CS570,Peter,10,10,10,8,9	CS,CS570,Peter,5	9.4	CS,CS480,Tim,5	6.4	CS,CS480,Tom,4	5.75	CS,CS536,Peter,5	9.4	CS,CS536,Peter,5	9.4		Peter,CS536,9.4
NA	2016,BUS,BUS532,Lily,6,6,10,8,9	BUS,BUS532,Lily,5	7.8	CS,CS570,Peter,5	9.4	CS,CS532,Tom,5	7.8	CS,CS557,Peter,5	9	CS,CS557,Peter,5	9		Peter,CS557,9.0
								CS,CS570,Peter,5	9.4	CS,CS570,Peter,5	9.4		Peter,CS570,9.4
													Overall Average: 9.3
								CS,CS480,Tim,5	6.4	CS,CS480,Tim,5	6.4		Tim,CS480,6.4
													Overall Average: 6.4
								CS,CS480,Tom,4	5.75	CS,CS480,Tom,4	5.75		Tom,CS480,6.4
								CS,CS532,Tom,5	7.8	CS,CS532,Tom,5	7.8		Tom,CS532,7.8
													Overall Average: 7.1