**CSCE 4013/5013 Cloud Computing and Security**

**Quiz #9 (20 points) (solution)**

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Problem #1 (10 pts)**

1. Yes / No Do you participate in this quiz?

**Problem #2 (10 pts)**

Assume that (1) the elements in an RDD will be evenly distributed among multiple partitions; (2) the local aggregation results of partitions will be returned to the driver program in the same order as the order of partitions in the original RDD.

Given the actions on the left column, write the results on the right column.

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| --- | --- |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),1)  val result=inputrdd.fold(0)((x,y)=>x+y) | 21 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),2)  val result=inputrdd.fold(1) ((x,y)=>x+y) | 24 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),50)  val result=inputrdd.fold(1)((x,y)=>x+y) | 72 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),1)  val result=inputrdd.fold(0)((x,y)=>x+1) | 1 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),2)  val result=inputrdd.fold(0)((x,y)=>x+1) | 2 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),50)  val result=inputrdd.fold(0)((x,y)=>x+1) | 50 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),1)  val result=inputrdd.reduce((x,y)=>x+y) | 21 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),50)  val result=inputrdd.reduce((x,y)=>x+y) | 21 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),2)  val result=inputrdd.reduce((x,y)=>x+1) | 4 |
| val inputrdd=sc.parallelize(List(1,2,3,4,5,6),50)  val result=inputrdd.reduce((x,y)=>x+1) | 6 |