Lab_Assignment-3

Team-1

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Video Link: https://youtu.be/u3A_J0uAuG4

*This part is to implement MapReduce algorithms for finding Facebook Common Friends problems and run the map reduce in Apache Spark.

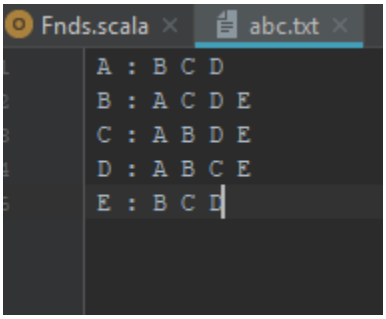
Code:

This is the scala code for fiding common facebook friends in a facebook friends list.

```scala
import org.apache.spark._
import org.apache.log4j.{Level, Logger}


object Fnds{

  def main(args: Array[String]): Unit = {


    Logger.getLogger( name = "org").setLevel(Level.ERROR)
    Logger.getLogger( name = "akka").setLevel(Level.ERROR)

    val conf = new SparkConf().setAppName("facefriends").setMaster("local[*]");
    val sc = new SparkContext(conf)


    def friendsMapper(line: String) : Array[((String, String), Set[String])] = {
      val words = line.split( regex = " ")
      val key = words(0)
      val pairs = words.slice(1, words.size).map(friend => {
        if (key < friend) (key, friend) else (friend, key)
      })
      pairs.map(pair => (pair, words.slice(1, words.size).toSet))
    }

    def friendsReducer(accumulator: Set[String], set: Set[String]) : Set[String] = {
      accumulator intersect set
    }

    val file = sc.textFile( path = "C:\\Users\\matur\\Desktop\\UMKC\\bigdata_programming\\Lab_Assignment_3\\src\\main\\scala\\abc.txt
```

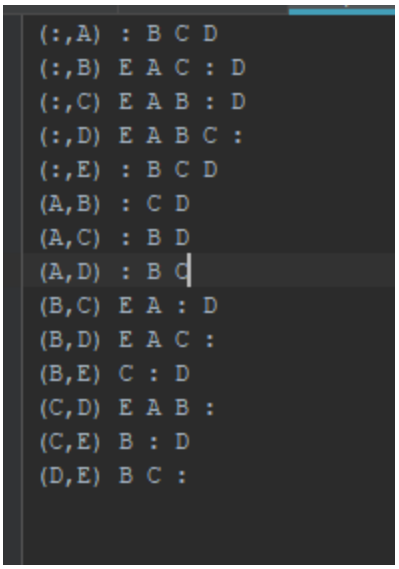
INPUT:

The input is taken in the following format



Output:

The output describes the common friends of each friend with the other friend.


(:,A) : B C D
(:,B) E A C : D
(:,C) E A B : D
(:,D) E A B C :
(:,E) : B C D
(A,B) : C D
(A,C) : B D
(A,D) : B C
(B,C) E A : D
(B,D) E A C :
(B,E) C : D
(C,D) E A B :
(C,E) B : D
(D,E) B C :