



```
inputs.map(f = file => spark.read
  .option("...", "...")
  .csv(file)
  // emits (attribute, attribute name) as tuple
  .flatMap(row => row.schema.fields.zipWithIndex.map(tup => (row.getString(tup._2), tup._1.name )))
  // union all CSVs
  .reduce { (a, b) => a.union(b) }
  .dropDuplicates
  // group by attribute
  .groupByKey(_. _1)
  // emit attribute names as set
  .mapGroups { case (_, rows) => rows.map(_. _2).toSet }
  .dropDuplicates
  // builds inclusion lists
  .flatMap(set => set.map(e => (e, set - e)))
  .groupByKey(_. _1)
  // build intersection of all related inclusion lists
  .mapGroups { case (k, it) => (k, it.foldLeft(it.next(). _2) { (a, b) => a.intersect(b._2) }) }
  // filter all attributes that have no foreign key candidate
  .filter(_. _2.nonEmpty)
  // sort by dependent
  .sort("_1")
  .collect()
  // generate output
  .foreach { case (dep, ref) => println(s"$dep < ${ref.toList.sorted.mkString(", ")}") }
```