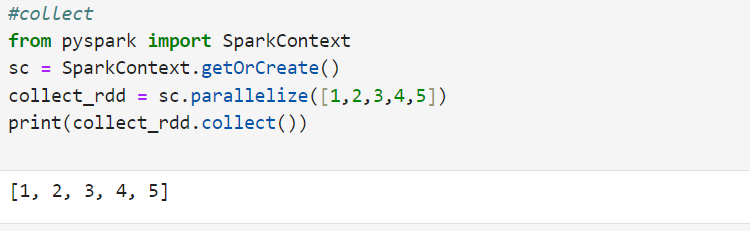
**Assignment-13**

* **Transformations and Actions**
* **Selecting, Renaming, Filtering Data in a Pandas DataFrame**

**Actions**

1. **collect()**

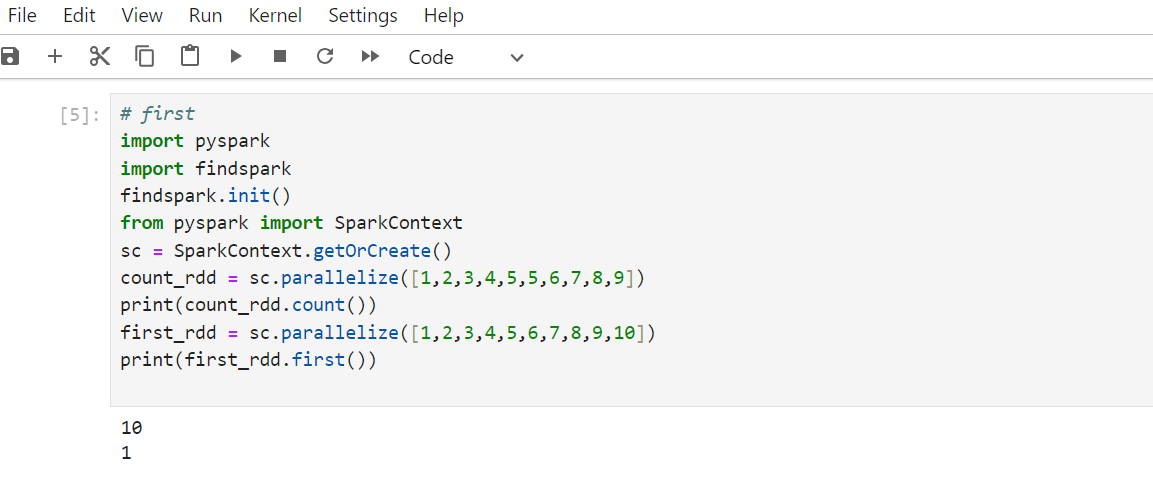
****

1. **count():**

**A white rectangular object with text

Description automatically generated**

1. **first():**

****

1. **take():**

**A screenshot of a computer code

Description automatically generated**

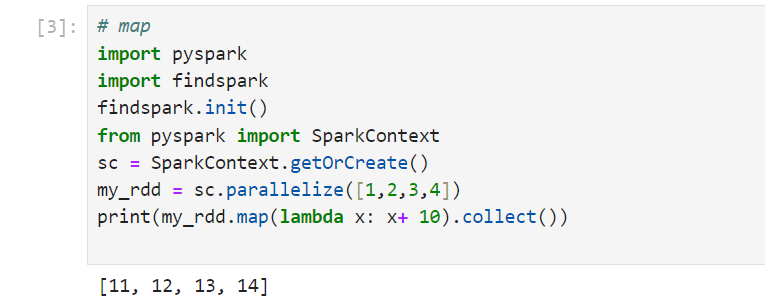
1. **reduce():**

**A screenshot of a computer program

Description automatically generated**

**Transformations**

1. **map():**

****

1. **filter():**

**A screen shot of a computer code

Description automatically generated**

1. **union():**

**A screen shot of a computer code

Description automatically generated**

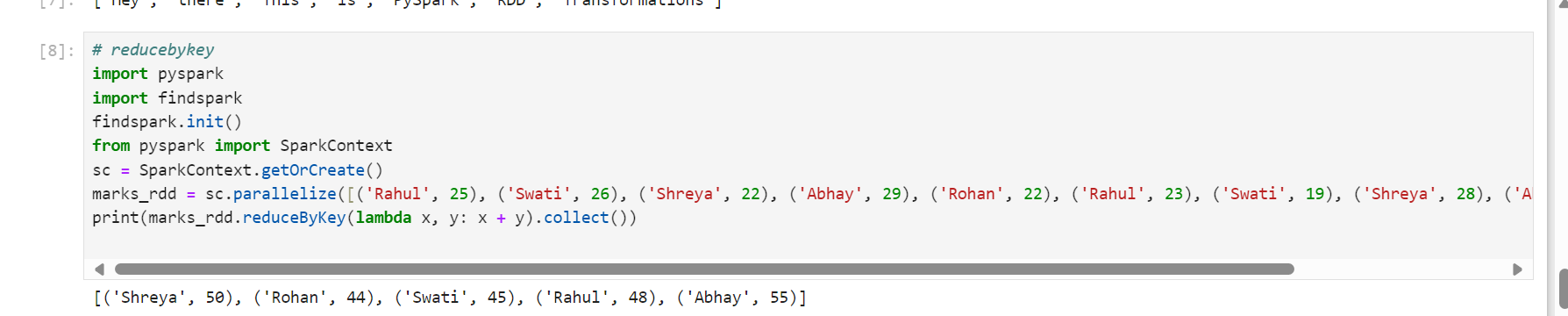
1. **flatmap():**

**A screenshot of a computer code

Description automatically generated**

**Transformations in Pair RDDs**

1. **reduceByKey():**

****

1. **sortByKey():**

**A screen shot of a computer

Description automatically generated**

1. **groupByKey():**

**A white rectangular object with red and green text

Description automatically generated**

**Actions in Pair RDDs**

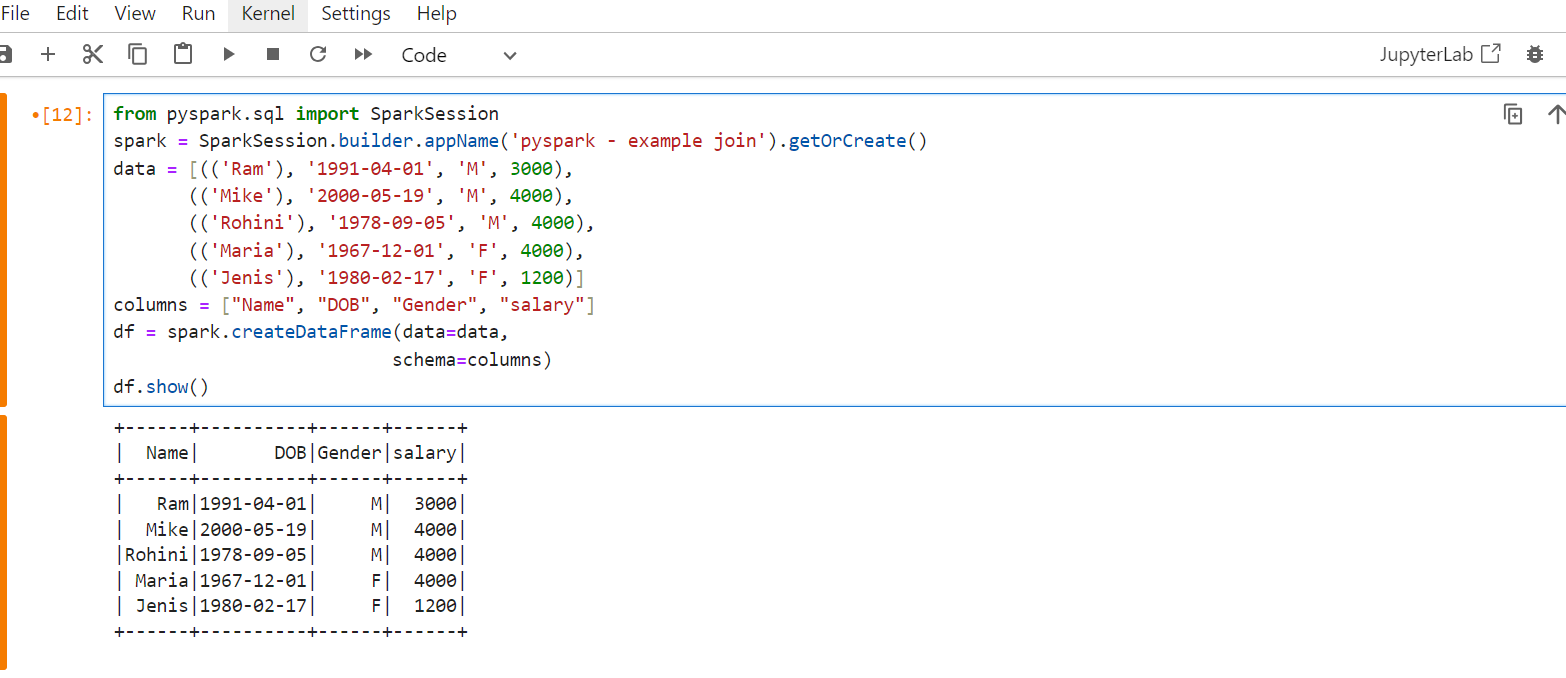
1. **countByKey():**

**A white rectangular object with colorful text

Description automatically generated with medium confidence**

**Selecting, Renaming, Filtering Data in a Pandas DataFrame**

**Creating a DataFrame:**

****

1. **Using withColumnRenamed()A white rectangular box with colorful text

   Description automatically generated**
2. **Using selectExpr():**

**A white screen with red and black text

Description automatically generated**

1. **Using select() method**

**A screenshot of a computer

Description automatically generated**

1. **Using toDF():**

**A screenshot of a computer

Description automatically generated**