

大作业

题目 5 利用rocketmq-streams 实现分数实时统计

基于以上数据通过rocketmq-streams将每人分数大于90的科目打印打印到控制台（可以将上面数据存入文件则rocketmq-streams数据源为文件，或者将上面数据写入rocketmq，则rocketmq-streams数据源为rocketmq）

数据源(data.txt):

```
1 {"name":"张三","class":"3班","subject":"数学","score":90}
2 {"name":"张三","class":"3班","subject":"历史","score":81}
3 {"name":"张三","class":"3班","subject":"英语","score":91}
4 {"name":"张三","class":"3班","subject":"语文","score":70}
5 {"name":"张三","class":"3班","subject":"政治","score":84}
6 {"name":"张三","class":"3班","subject":"地理","score":99}
7 {"name":"李四","class":"3班","subject":"数学","score":76}
8 {"name":"李四","class":"3班","subject":"历史","score":83}
9 {"name":"李四","class":"3班","subject":"英语","score":82}
10 {"name":"李四","class":"3班","subject":"语文","score":92}
11 {"name":"李四","class":"3班","subject":"政治","score":97}
12 {"name":"李四","class":"3班","subject":"地理","score":89}
13 {"name":"王五","class":"3班","subject":"数学","score":86}
14 {"name":"王五","class":"3班","subject":"历史","score":88}
15 {"name":"王五","class":"3班","subject":"英语","score":86}
16 {"name":"王五","class":"3班","subject":"语文","score":93}
17 {"name":"王五","class":"3班","subject":"政治","score":99}
18 {"name":"王五","class":"3班","subject":"地理","score":88}
```

代码:

Version I

针对 score 做筛选后直接输出该行

```

1 public class FileSourceExample {
2     public static void main(String[] args) {
3         DataSource source = StreamBuilder.dataStream("namespace", "pipeline");
4         source.fromFile("data.txt", true)
5             .map(message -> message)
6             .filter(message -> ((JSONObject)message).getInteger("score") > 90)
7             .toPrint(1)
8             .start();
9     }
10 }

```

Version II

针对 name 做 groupby，输出人物对应的全部大于90分的课程

```

1 public class FileSourceExample {
2     public static void main(String[] args) {
3         DataSource source = StreamBuilder.dataStream("namespace", "pipeline");
4         source.fromFile("data.txt", true)
5             .map(message -> message)
6             .groupBy("name")
7             .filter(message -> ((JSONObject)message).getInteger("score") > 90 )
8             .selectFields("subject")
9             .toPrint(1)
10            .start();
11    }
12 }

```

思路:

大作业的思路与基础作业中的作业五一致，均为通过 filter 选项去根据指定属性值的情况去筛选想要的行数，并打印。

由于需要按照人名去聚合，因此选择 groupBy("name")，打印出一个人对应的所有科目。接着利用 filter 和 selectFields 去指定科目分数 > 90，并选择 subject，做最终的输出，按照教程中的示例，使用 .toPrint 打印出符合条件的内容。

结果:

```
{"name": "张三", "class": "3班", "subject": "数学", "score": 90}  
{"name": "张三", "class": "3班", "subject": "英语", "score": 91}  
{"name": "张三", "class": "3班", "subject": "地理", "score": 99}  
{"name": "李四", "class": "3班", "subject": "语文", "score": 92}  
{"name": "李四", "class": "3班", "subject": "政治", "score": 97}  
{"name": "王五", "class": "3班", "subject": "语文", "score": 93}  
{"name": "王五", "class": "3班", "subject": "政治", "score": 99}
```