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mapper.py

```
#!/usr/bin/env python
```

```
import sys
```

```
for line in sys.stdin:
    line = line.strip()
    if line:
        data = line.split(',')
        for i in range(0, len(data), 3):
            student_id = data[i]
            name = data[i + 1]
            marks = data[i + 2]
            print(f'{student_id}\t{name}\t{marks}')
```

reducer.py

```
#!/usr/bin/env python
```

```
import sys
```

```
current_key = None
```

```
current_values = []
```

```
def flush():
```

```
    global current_key, current_values
```

```
    if current_key is not None:
```

```
        print(f'{current_key}\t{','.join(current_values)}')
```

```
    current_values = []
```

```
for line in sys.stdin:
```

```
    key, value = line.strip().split('\t', 1)
```

```
    if current_key != key:
```

```
        flush()
```

```
    current_key = key
```

```
    current_values.append(value)
```

```
flush()
```