Download restaurant data from below mentioned link

Download Data Link ->

https://github.com/shashank-mishra219/Confluent-Kafka Setup/blob/main/restaurant_orders.csv

Complete the given below task to finish this assignment.

- 1. Setup Confluent Kafka Account
- 2. Create one kafka topic named as "restaurant-take-away-data"/ "restaurant_order_topic" with partitions
- 3. Setup key (string) & value (json) schema in the confluent schema registry
- 4. Write a kafka producer program (python or any other language) to read data records from restaurant data csv file, make sure schema is not hardcoded in the producer code, read the latest version of schema and schema_str from schema registry and use it for data serialization.
- 5. From producer code, publish data in Kafka Topic one by one and use dynamic key while publishing the records into the Kafka Topic
- 6. Write kafka consumer code and create two copies of same consumer code and save it with different names (kafka_consumer_1.py & kafka_consumer_2.py), again make sure latest schema version and schema_str is not hardcoded in the consumer code, read it automatically from the schema registry to desrialize the data.

Now test two scenarios with your consumer code:

- a.) Use "group.id" property in consumer config for both consumers and mention different group_ids in kafka_consumer_1.py & kafka_consumer_2.py, apply "earliest" offset property in both consumers and run these two consumers from two different terminals. Calculate how many records each consumer consumed and printed on the terminal
- b.) Use "group.id" property in consumer config for both consumers and mention same group_ids in kafka_consumer_1.py & kafka_consumer_2.py, apply "earliest" offset property in both consumers and run these two consumers from two different terminals. Calculate how many records each consumer consumed and printed on the terminal
- 7. Once above questions are done, write another kafka consumer to read data from kafka topic and from the consumer code create one csv file "output.csv" and append consumed records output.csv file

1 Producer - 1 Consumer

```
User record b'fc364318-d302-47b2-af69-31eeaa59477c': order: {'order_number': 37
66, 'order_date': '14/11/2016 13:31', 'item_name': 'House Red wine 75cl', 'quan
tity': 2, 'product_price': 17.95, 'total_products': 6}

User record b'202c63a6-3a3f-4e59-94fc-1eb9c1327226': order: {'order_number': 31
78, 'order_date': '13/69/2016 12:30', 'item_name': 'House Red wine 75cl', 'quan
tity': 2, 'product_price': 17.95, 'total_products': 5}

User record b'76164ccd-1187-4552-b2f3-051a7a2d1a52': order: {'order_number': 31
54, 'order_date': '15/69/2016 18:45', 'item_name': 'House Red wine 75cl', 'quan
tity': 2, 'product_price': 17.95, 'total_products': 5}

User record b'78e13fd9-9d66-4900-a66e-38ec2f0aa614': order: {'order_number': 26
28, 'order_date': '04/66/2016 13:38', 'item_name': 'House Red wine 75cl', 'quan
tity': 2, 'product_price': 17.95, 'total_products': 7}

User record b'78666169-c05e-4004-9ec1-0ca231b7363c': order: {'order_number': 25
03, 'order_date': '14/05/2016 19:28', 'item_name': 'House Red wine 75cl', 'quan
tity': 1, 'product_price': 17.95, 'total_products': 6}

User record b'78666169-c05e-4004-9ec1-0ca231b7363c': order: {'order_number': 25
03, 'order_date': '18/07/2016 19:57', 'item_name': 'House Red wine 75cl', 'quan
tity': 1, 'product_price': 17.95, 'total_products': 6}

User record b'3651c65-2fa3-4db6-beaa-bd86b60d762f': order: {'order_number': 22
49, 'order_date': '19/04/2016 19:94', 'item_name': 'House Red wine 75cl', 'quan
tity': 1, 'product_price': 17.95, 'total_products': 6}

User record b'3651c65-2fa3-4db6-beaa-bd86b60d762f': order: {'order_number': 22
49, 'order_date': '19/04/2016 12:51', 'item_name': 'House white wine 75cl', 'quan
tity': 1, 'product_price': 17.95, 'total_products': 6}

User record b'3651c69-569-2fa3-4db6-beaa-bd86b60d762f': order: {'order_number': 22
49, 'order_date': '19/07/2016 12:51', 'item_name': 'House Red wine 75cl', 'quan
tity': 1, 'product_price': 17.95, 'total_products': 6}

User record b'3651c69-2fa3-2db6-2fa3-2db6-2fa3-2db6-2fa3-2db6-2fa3-2db6-2fa3-2db6-2fa3-2db6-2fa3-2d
```

User record b'de?dea93-112c-4df2-923e-4/fbd6cbab80' successfully produced to restaurant_order_topic_1 [2] at offset 138059
User record b'd861baf0-6f90-44c3-a493-5a7d574fdfab' successfully produced to restaurant_order_topic_1 [2] at offset 138060
User record b'c37e170d-90a3-43c1-bb44-c6210bbf48c4' successfully produced to restaurant_order_topic_1 [4] at offset 138174
User record b'b'29aef069-8492-4629-924e-cfdc2580b3bb' successfully produced to restaurant_order_topic_1 [4] at offset 138175
User record b'63829a3b-37af-4d42-b3b2-f0c633b34655' successfully produced to restaurant_order_topic_1 [4] at offset 138176
User record b'648c4019-0659a-4280-9312-72287c017e42' successfully produced to restaurant_order_topic_1 [4] at offset 138177
User record b'0407e467-4888-426b-913c-e96d7e8dda0a' successfully produced to restaurant_order_topic_1 [0] at offset 137990
User record b'27b17c-4992-4895-bd66-10a07f689636' successfully produced to restaurant_order_topic_1 [0] at offset 137991
User record b'257d18cb-4acc-4b23-8845-f5d43783f787' successfully produced to restaurant_order_topic_1 [0] at offset 137992
User record b'65aae9c-85904-477c-9429-88d8f16a3b93' successfully produced to restaurant_order_topic_1 [4] at offset 138178
User record b'65ae9a-85904-477c-9429-88d8f16a3b93' successfully produced to restaurant_order_topic_1 [4] at offset 138178
User record b'65ae9a-1345s-4188-89bd-51187fcfeb95' successfully produced to restaurant_order_topic_1 [4] at offset 138179
User record b'95fa6230-dda1-4288-854b-11676d39373a' successfully produced to restaurant_order_topic_1 [1] at offset 138180
User record b'95fa6230-dda1-4288-854b-11676d39373a' successfully produced to restaurant_order_topic_1 [1] at offset 138939
User record b'13e48bde-632e-4ff5-aab4-8ef0117dcefa' successfully produced to restaurant_order_topic_1 [0] at offset 138939
User record b'76e3696-9696-6906-6906-6906-6906-8906-760aa014' successfully produced to restaurant_order_topic_1 [2] at offset 138061
User record b'76e566169-065e-40d8-9691-6023157632630309' successfully

1 Producer - 2 Consumers with Same Grp Id

As we can see from the above image, if Two Consumers with same Grp Id are made to run parallelly, the data is shared between the two consumers, i.e., Data is split up between two of them thereby helping to improve parallelism.

```
bler record b'Saction 2-1cd-dire-8708-8906488811a': order. ('order_namber': 15 87, 'order_state': '980/27812-2647', 'tiss_mase': 'leone state dire-75cl', 'quantity': 1, 'product_price: 17.05, 'total_products': 6)

Bleer record b'Saction 3-1seas 59077: order: ('order_namber': 15 70, 'total_products': 6)

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Bleer record b'Saction 3-1seas 59077: order: ('order_namber': 15 70, 'total_products': 7)

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Bleer record b'Saction 3-1seas 59077: order: ('order_namber': 15 70, 'total_products': 7)

Bleer record b'Saction 3-1seas 59077: order: ('order_namber': 15 70, 'total_products': 7)

Bleer record
```

If Two Consumers with different Grp Id are made to run parallelly, the records that are generated from the producer are read by both the consumers as whole.

output.csv got generated after consumer code ran

4	А						G
1	order_nui	order_date	item_name	quantity	product_price	total_products	
2	14824	15-05-2019 18:09	Mango Chutney	1	0.5	10	
3	14784	12-05-2019 16:59	Mint Sauce	1	0.5	7	
4	14776	11-05-2019 21:32	Lime Pickle	1	0.5	10	
5	14776	11-05-2019 21:32	Mango Chutney	1	0.5	10	
6	14770	11-05-2019 20:28	Onion Chutney	1	0.5	12	
7	14770	11-05-2019 20:28	Mint Sauce	1	0.5	12	
8	14730	10-05-2019 18:14	Red Sauce	1	0.5	12	
9	14692	06-05-2019 18:52	Mango Chutney	1	0.5	4	
10	14686	06-05-2019 17:40	Mango Chutney	1	0.5	9	
11	14681	05-05-2019 20:54	Mango Chutney	2	0.5	11	
12	14675	05-05-2019 20:03	Mint Sauce	1	0.5	6	
13	14668	05-05-2019 19:20	Onion Chutney	1	0.5	6	
14	14663	05-05-2019 18:32	Mint Sauce	2	0.5	10	
15	14658	05-05-2019 17:01	Onion Chutney	1	0.5	7	
16	14644	04-05-2019 19:36	Onion Chutney	1	0.5	8	
17	14639	04-05-2019 19:06	Mint Sauce	1	0.5	8	
18	14632	04-05-2019 18:32	Onion Chutney	1	0.5	10	
19	14630	04-05-2019 18:21	Mango Chutney	2	0.5	8	
20	14608	03-05-2019 18:25	Mango Chutney	1	0.5	7	
21	14580	01-05-2019 18:44	Mango Chutney	1	0.5	10	
22	14568	30-04-2019 18:15	Mango Chutney	1	0.5	7	
23	14562	29-04-2019 21:51	Onion Chutney	1	0.5	6	
24	14556	29-04-2019 17:05	Mint Sauce	1	0.5	14	
25	14546	28-04-2019 18:16	Mint Sauce	1	0.5	14	
26	14531	27-04-2019 19:39	Mint Sauce	1	0.5	9	
27	14502	26-04-2019 20:10	Mint Sauce	1	0.5	7	
28	14494	26-04-2019 18:22	Mango Chutney	1	0.5	8	
29	14492	26-04-2019 17:43	Mint Sauce	2	0.5	12	
30	14472	23-04-2019 19:51	Mint Sauce	1	0.5	9	
31	14472	23-04-2019 19:51	Onion Chutney	1	0.5	9	
32	14464	22-04-2019 22:18	Mango Chutney	1	0.5	7	
33	14453	22-04-2019 18:35	Mango Chutney	1	0.5	9	
34	14431	20-04-2019 20:17	Mint Sauce	4	0.5	12	
35	14428	20-04-2019 20:04	Mango Chutney	1	0.5	9	
		output 🕀					