connect_vitess.py test cases

1. Format of the command line for run the python file

   Python connect_vitess.py <camera csv file> <image&video csv file> <feature csv file>
   <image&feature csv file>
   Example of correct input:
   1. Input all the file names
      Python connect_vitess.py camera.csv iv.csv feature.csv if.csv
   2. Input fewer and rest as None
      Python connect_vitess.py camera.csv iv.csv None None

   Test cases:
   (if the input is wrong, should I ask for input again or just exit?)
   1. Missing argument
      example: Python connect_vitess.py camera.csv mage&video.csv
      description: Missing the feature file and the csv file
      example result:

```
Please use the format
>> python connect_vitess.py <camera filename> <image&video filename> <feature filename> <image&feature filename>

If does not have any of the file, use None
>> python connect_vitess.py <camera filename> None None None
```

   2. Input file does not exist
      example: Python connect_vitess.py c.csv None None None
      description: the c.csv file does not exist
      example result:

```
The file c.csv does not exist
```

   3. The file type is not csv
      example: : Python connect_vitess.py c.txt None None None
      description: c.txt is not a csv file
      example result:

```
Only accept the csv file type
```

2. Format of the csv file

   1. Example of the correct format of image.csv file

Transaction_id	Expired	Country	City	Latitude	Longitude	Resolution_w	Resolution_h
1	0	USA	Boston	42.3692	-71.0658	2048	1536
2	0	USA	New York	40.7047	-74.0211	1024	768

2. Example of the correct format of iv file

IV_id	Transaction_id	IV_date	IV_time	File_type	File_size	Minio_link	Data_set	Is_processed
1	1	2019-01-02	13:38:22	PNG	1.4 MB	None	None	0
2	1	2019-01-03	14:57:19	JPEG	390 KB	None	None	0

3. Example of the correct format of feature.csv file

Feature_id	Feature_name
1	Car
2	Bus

4. Example of the correct format of iF.csv file (no primary key here?)

Feature_id	IV_id
1	1
1	2

Test cases:
    4. Missing header
        example test file: test_missing_header.csv

test_missing_header

1	0	USA	Boston	42.3692	-71.0658	2048	1536
2	0	USA	New York	40.7047	-74.0211	1024	768

        description: the csv file of camera information does not contains header
        example result: Automatic ignore the header and insert the data
                No print

    5. Only has header
        example test file: test_missing_row

test_missing_row

Transaction id	Expired	country	city	latitude	longtitude	resolution_w	resolution_h
2	0	USA	New York	40.7047	-74.0211	1024	768

        description: the csv file of camera information contains empty rows
                (it also handles the case when the file is completely empty)
        example result: ignore the missing row and update other data

6. Missing column
example test file: test_missing column.csv

test_missing_column

Expired	country	city	latitude	longtitude	resolution_w	resolution_h
0	USA	Boston	42.3692	-71.0658	2048	1536
0	USA	New York	40.7047	-74.0211	1024	768

description: the camera csv file doesn't have Transaction_id column
(it also handles the case when exceed the number of expected column)
example result:

```
File test_missing_column.csv is missing required column.
```

7. Missing optional column
example test file: test_missing_optional_column.csv
The optional city need to be decided

test_missing_optional_column

Transaction id	Expired	country	latitude	longtitude	resolution_w	resolution_h
1	0	USA	42.3692	-71.0658	2048	1536
2	0	USA	40.7047	-74.0211	1024	768

description: the camera csv file doesn't have city column
example result: The missing column will automatically inserted as "None"
No print

3. Create and insert issue
Test cases:

8. If the table is already exist
description: the camera table is already created
example result:

```
CAMERA table exist
```

9. If the data of one item is already there
description: the camera metadata with id 0001 is already exist
example result: update the existing row with the new values instead.
No print.

10. If the data insert is in a wrong format
example test file: test_insert_wrong_format.csv
description: insert the int expired in format as string
(the mysql error is quit straight forward, so I leave the origin)
example result: It will display the mysql error as

```
Incorrect integer value: 'String' for column 'Expired' at row 1
```