

CITS5503 Lab1

Wenxiao Zhang 22792191

1. Test the aws environment by running:

```
aws ec2 describe-regions --output table
```

The test result is shown below:

```
moebuta@Lenovo-MoeBuTa:~/2022s2/cits5503/labs$ aws ec2 describe-regions --output table
```

DescribeRegions		
Regions		
Endpoint	OptInStatus	RegionName
ec2.eu-north-1.amazonaws.com	opt-in-not-required	eu-north-1
ec2.ap-south-1.amazonaws.com	opt-in-not-required	ap-south-1
ec2.eu-west-3.amazonaws.com	opt-in-not-required	eu-west-3
ec2.eu-west-2.amazonaws.com	opt-in-not-required	eu-west-2
ec2.eu-west-1.amazonaws.com	opt-in-not-required	eu-west-1
ec2.ap-northeast-3.amazonaws.com	opt-in-not-required	ap-northeast-3
ec2.ap-northeast-2.amazonaws.com	opt-in-not-required	ap-northeast-2
ec2.ap-northeast-1.amazonaws.com	opt-in-not-required	ap-northeast-1
ec2.sa-east-1.amazonaws.com	opt-in-not-required	sa-east-1
ec2.ca-central-1.amazonaws.com	opt-in-not-required	ca-central-1
ec2.ap-southeast-1.amazonaws.com	opt-in-not-required	ap-southeast-1
ec2.ap-southeast-2.amazonaws.com	opt-in-not-required	ap-southeast-2
ec2.eu-central-1.amazonaws.com	opt-in-not-required	eu-central-1
ec2.us-east-1.amazonaws.com	opt-in-not-required	us-east-1
ec2.us-east-2.amazonaws.com	opt-in-not-required	us-east-2
ec2.us-west-1.amazonaws.com	opt-in-not-required	us-west-1
ec2.us-west-2.amazonaws.com	opt-in-not-required	us-west-2

2. Test the python environment

the test processes and results are shown below:

```
moebuta@Lenovo-MoeBuTa:~$ python3
Python 3.8.10 (default, Jun 22 2022, 20:18:18)
[GCC 9.4.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> import boto3
>>> ec2 = boto3.client('ec2')
>>> response = ec2.describe_regions()
>>> print(response)
{'Regions': [{'Endpoint': 'ec2.eu-north-1.amazonaws.com', 'RegionName': 'eu-north-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.ap-south-1.amazonaws.com', 'RegionName': 'ap-south-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.eu-west-3.amazonaws.com', 'RegionName': 'eu-west-3', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.eu-west-2.amazonaws.com', 'RegionName': 'eu-west-2', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.eu-west-1.amazonaws.com', 'RegionName': 'eu-west-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.ap-northeast-3.amazonaws.com', 'RegionName': 'ap-northeast-3', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.ap-northeast-2.amazonaws.com', 'RegionName': 'ap-northeast-2', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.ap-northeast-1.amazonaws.com', 'RegionName': 'ap-northeast-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.sa-east-1.amazonaws.com', 'RegionName': 'sa-east-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.ca-central-1.amazonaws.com', 'RegionName': 'ca-central-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.ap-southeast-1.amazonaws.com', 'RegionName': 'ap-southeast-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.ap-southeast-2.amazonaws.com', 'RegionName': 'ap-southeast-2', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.eu-central-1.amazonaws.com', 'RegionName': 'eu-central-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.us-east-1.amazonaws.com', 'RegionName': 'us-east-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.us-east-2.amazonaws.com', 'RegionName': 'us-east-2', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.us-west-1.amazonaws.com', 'RegionName': 'us-west-1', 'OptInStatus': 'opt-in-not-required'}, {'Endpoint': 'ec2.us-west-2.amazonaws.com', 'RegionName': 'us-west-2', 'OptInStatus': 'opt-in-not-required'}], 'ResponseMetadata': {'RequestId': 'f6ea8d6a-3bfa-475a-91f5-ae2f8c9ea237', 'HTTPStatusCode': 200, 'HTTPHeaders': {'x-amzn-requestid': 'f6ea8d6a-3bfa-475a-91f5-ae2f8c9ea237', 'cache-control': 'no-cache, no-store', 'strict-transport-security': 'max-age=31536000; includeSubDomains', 'vary': 'accept-encoding', 'content-type': 'text/xml; charset=UTF-8', 'content-length': '3875', 'date': 'Mon, 01 Aug 2022 09:55:16 GMT', 'server': 'AmazonEC2'}, 'RetryAttempts': 0}}
```

3. Put this code into a python file and tabulate the print to have 2 columns with Endpoint and RegionName

we use `pandas` and `tabulate` to do this task, the python code and result are shown below:

```
1  import boto3
2  import pandas as pd
3  from tabulate import tabulate
4
5  ec2=boto3.client('ec2')
6  response=ec2.describe_regions()
7  region_list = pd.DataFrame(response['Regions'], columns=['Endpoint', 'RegionName'])
8  print(tabulate(region_list,headers='keys', tablefmt='psql', showindex=False))
9
10
11
12
```

PROBLEMS OUTPUT TERMINAL JUPYTER DEBUG CONSOLE

moebuta@Lenovo-MoeBuTa:~/2022s2/cits5503/labs\$ python3 lab1.py

```
+-----+-----+
| Endpoint                                | RegionName |
+-----+-----+
| ec2.eu-north-1.amazonaws.com           | eu-north-1 |
| ec2.ap-south-1.amazonaws.com           | ap-south-1 |
| ec2.eu-west-3.amazonaws.com            | eu-west-3  |
| ec2.eu-west-2.amazonaws.com            | eu-west-2  |
| ec2.eu-west-1.amazonaws.com            | eu-west-1  |
| ec2.ap-northeast-3.amazonaws.com        | ap-northeast-3 |
| ec2.ap-northeast-2.amazonaws.com        | ap-northeast-2 |
| ec2.ap-northeast-1.amazonaws.com        | ap-northeast-1 |
| ec2.sa-east-1.amazonaws.com            | sa-east-1  |
| ec2.ca-central-1.amazonaws.com          | ca-central-1 |
| ec2.ap-southeast-1.amazonaws.com        | ap-southeast-1 |
| ec2.ap-southeast-2.amazonaws.com        | ap-southeast-2 |
| ec2.eu-central-1.amazonaws.com          | eu-central-1 |
| ec2.us-east-1.amazonaws.com            | us-east-1  |
| ec2.us-east-2.amazonaws.com            | us-east-2  |
| ec2.us-west-1.amazonaws.com            | us-west-1  |
| ec2.us-west-2.amazonaws.com            | us-west-2  |
+-----+-----+
```