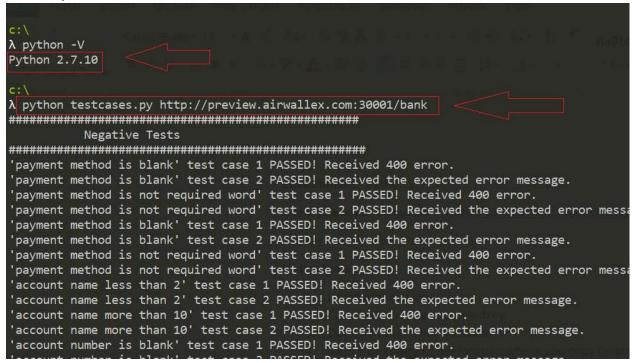**Environment**: Python 2.7

Library needed: Requests   (http://docs.python-requests.org/en/master/user/install/#install)

Library install: pip install requests

Instructions:

1. Unzip JiLi_EndpointTests.zip
2. Copy testcases.py to a directory
3. Open command line window
4. Switch directory to the location where you copy testcases.py to
5. If you don't specify endpoint URL, by default, testcases.py runs against
    'http://preview.airwallex.com:30001/bank', the command is "python testcases.py"
    OR you can specify your URL, the command is "python testcases.py URL", for example,
    "python testcases.py http://preview.airwallex.com:30001/bank"
6. The only issue you might encounter when running testcases.py could be 'requests module not
    found'. Just pip install requests module mentioned above.
7. For example:

8. This testcases.py includes two parts. The first part is negative tests and second part is positive
    tests. All tests return PASSED or FAILED based upon the actual returned response and expected
    responses.

9. Couple thoughts of this task:

a. I put everything in one python file for easy portability. In reality, we might consider splitting it into several files for better structure.
b. For such a complex API endpoint with numerous requirements, would you consider using some tool, such as SoapUI (https://www.soapui.org/) for generating tests more quickly and easily, and for more convenient test suites maintenance later?
c. This task could also be implemented using behavior driven development (cucumber) in Maven project along with surefire plug-in, testNG, etc. If you want, I could write up some details on it, but currently no bandwidth to write the complete Java codes to implement it. That's the reason I chose Python for a quick implementation.

10. Execution results:

```
c:\
λ python testcases.py
###################################################
        Negative Tests
###################################################
'payment method is blank' test case 1 PASSED! Received 400 error.
'payment method is blank' test case 2 PASSED! Received the expected error message.
'payment method is not required word' test case 1 PASSED! Received 400 error.
'payment method is not required word' test case 2 PASSED! Received the expected error
message.
'payment method is blank' test case 1 PASSED! Received 400 error.
'payment method is blank' test case 2 PASSED! Received the expected error message.
'payment method is not required word' test case 1 PASSED! Received 400 error.
'payment method is not required word' test case 2 PASSED! Received the expected error
message.
'account name less than 2' test case 1 PASSED! Received 400 error.
'account name less than 2' test case 2 PASSED! Received the expected error message.
'account name more than 10' test case 1 PASSED! Received 400 error.
'account name more than 10' test case 2 PASSED! Received the expected error message.
'account number is blank' test case 1 PASSED! Received 400 error.
'account number is blank' test case 2 PASSED! Received the expected error message.
'US account number less than 1' test case 1 PASSED! Received 400 error.
'US account number less than 1' test case 2 PASSED! Received the expected error message.
'US account number more than 17' test case 1 PASSED! Received 400 error.
'US account number more than 17' test case 2 ***FAILED***! The actual error message received
was Length of account_number should be between 7 and 11 when bank_country_code is 'US'
'AU account number less than 6' test case 1 PASSED! Received 400 error.
'AU account number less than 6' test case 2 ***FAILED***! The actual error message received
was Length of account_number should be between 7 and 11 when bank_country_code is 'US'
'AU account number more than 9' test case 1 PASSED! Received 400 error.
'AU account number more than 9' test case 2 ***FAILED***! The actual error message received
was Length of account_number should be between 7 and 11 when bank_country_code is 'US'
```

'CN account number less than 8' test case 1 ***FAILED***! Expected 400 error, but received 200 error.

'CN account number less than 8' test case 2 ***FAILED***! Did not received any error message

'CN account number more than 20' test case 1 PASSED! Received 400 error.

'CN account number more than 20' test case 2 ***FAILED***! The actual error message received was Length of account_number should be between 7 and 11 when bank_country_code is 'US'

'when payment method = SWIFT, swift_code = blank' test case 1 PASSED! Received 400 error.

'when payment method = SWIFT, swift_code = blank' test case 2 PASSED! Received the expected error message.

'when swift code does not match bank country code' test case 1 PASSED! Received 400 error.

'when swift code does not match bank country code' test case 2 PASSED! Received the expected error message.

'swift code length is less than 8' test case 1 PASSED! Received 400 error.

'swift code length is less than 8' test case 2 PASSED! Received the expected error message.

'swift code length is more than 11' test case 1 PASSED! Received 400 error.

'swift code length is more than 11' test case 2 PASSED! Received the expected error message.

'swift code length is between 8 and 11' test case 1 ***FAILED***! Expected 400 error, but received 200 error.

'swift code length is between 8 and 11' test case 2 ***FAILED***! Did not received any error message

'when bank country=AU but bsb= blank' test case 1 PASSED! Received 400 error.

'when bank country=AU but bsb= blank' test case 2 PASSED! Received the expected error message.

'when bsb length is not 6' test case 1 PASSED! Received 400 error.

'when bsb length is not 6' test case 2 PASSED! Received the expected error message.

'when bank country= US but aba=blank' test case 1 ***FAILED***! Expected 400 error, but received 200 error.

'when bank country= US but aba=blank' test case 2 ***FAILED***! Did not received any error message

<Response [400]>

'aba length is not 9' test case 1 PASSED! Received 400 error.

'aba length is not 9' test case 2 PASSED! Received the expected error message.

###
        Positive Tests
###

'Positive case:special characters' PASSED! Processed successfully.

'Positive case:payment method and country code combination SWIFT US ICBKUSBJ' PASSED! Processed successfully.

'Positive case:payment method and country code combination SWIFT AU ICBKAUBJ' PASSED! Processed successfully.

'Positive case:payment method and country code combination SWIFT CN ICBKCNBJ' PASSED! Processed successfully.

'Positive case:payment method and country code combination LOCAL US ' PASSED! Processed successfully.
'Positive case:payment method and country code combination LOCAL AU ' PASSED! Processed successfully.
'Positive case:payment method and country code combination LOCAL CN ' PASSED! Processed successfully.
'Positive case:swift code length is 8 or 11 swift code is ICBCUSBJ' PASSED! Processed successfully.
'Positive case:swift code length is 8 or 11 swift code is ICBCUSBJJJJ' PASSED! Processed successfully.
'Positive case:aba=blank when country code <> US' PASSED! Processed successfully.
'Positive case:aba length is 9' PASSED! Processed successfully.
'Positive case:bsb=blank when country code <>AU' PASSED! Processed successfully.
'Positive case:bsb length is 6' PASSED! Processed successfully.
'Positive case:low boundary touch' PASSED! Processed successfully.
'Positive case:upper boundary touch' PASSED! Processed successfully.
'Positive case:all_account_name_length country code-US,account number-1' PASSED! Processed successfully.
'Positive case:all_account_name_length country code-US,account number-12345678901234567' PASSED! Processed successfully.
'Positive case:all_account_name_length country code-AU,account number-123456' PASSED! Processed successfully.
'Positive case:all_account_name_length country code-AU,account number-123456789' PASSED! Processed successfully.
'Positive case:all_account_name_length country code-CN,account number-12345678' PASSED! Processed successfully.
'Positive case:all_account_name_length country code-CN,account number-12345678901234567890' ***FAILED***! Received 400 error. Error message-{"error":"Length of account_number should be between 7 and 11 when bank_country_code is 'US'"}

c:\
λ