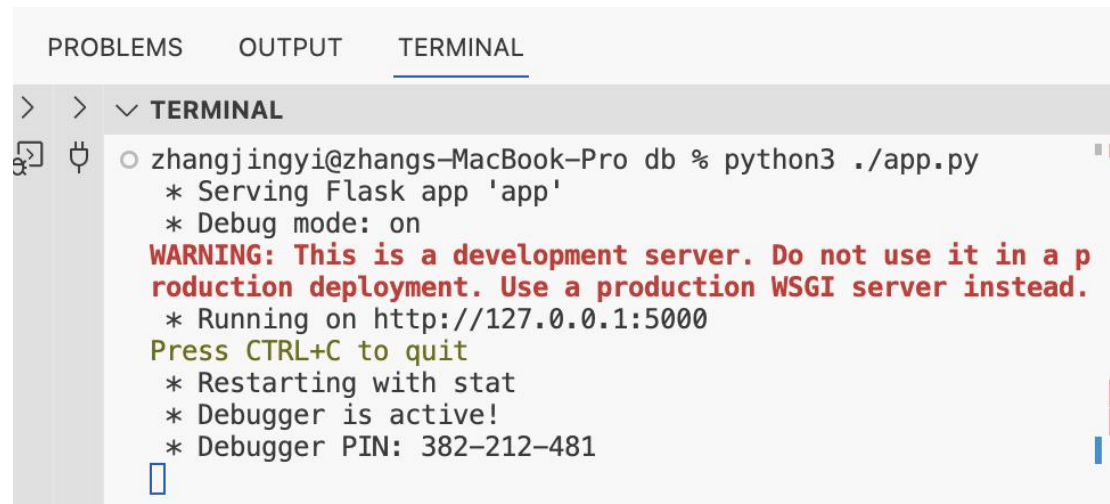## Usage Demonstration

Step 0: **download all code in main branch**
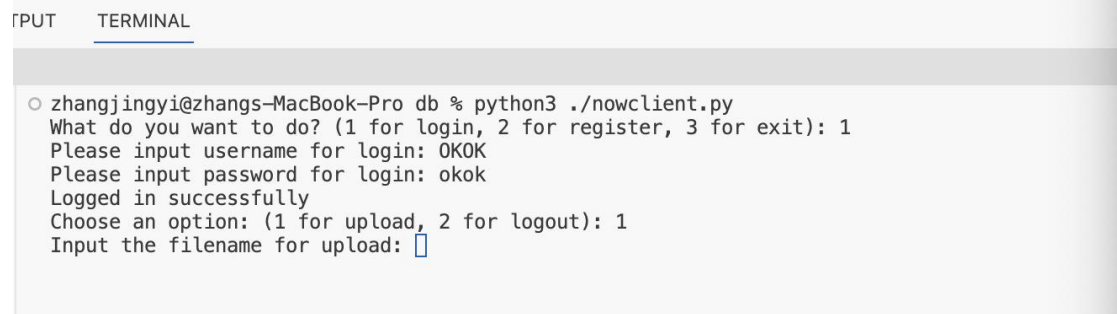
Step 1 open [**app.py**] : input **python3 ./app.py** in **terminal A** to run the app (the back end).

```
PROBLEMS    OUTPUT    TERMINAL

>  >  ∨ TERMINAL

   ○ zhangjingyi@zhangs-MacBook-Pro db % python3 ./app.py
      * Serving Flask app 'app'
      * Debug mode: on
      WARNING: This is a development server. Do not use it in a p
      roduction deployment. Use a production WSGI server instead.
      * Running on http://127.0.0.1:5000
      Press CTRL+C to quit
      * Restarting with stat
      * Debugger is active!
      * Debugger PIN: 382-212-481
```

Step 2 client 1 usage : input **python3 ./nowclient.py** in **terminal B** to run the app for client 1 (the font end).
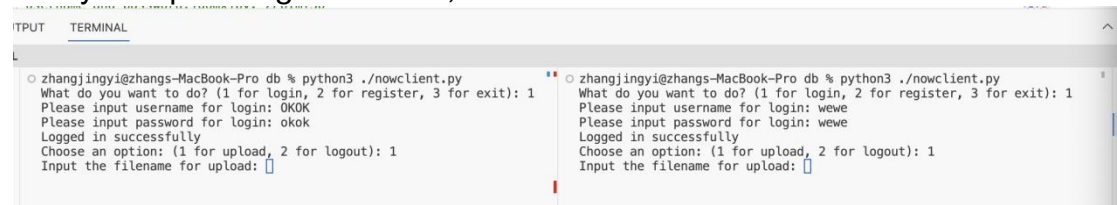
Then input 1 to login, then input username and password, then input 1 to be ready for uploading document.

```
TPUT    TERMINAL

   ○ zhangjingyi@zhangs-MacBook-Pro db % python3 ./nowclient.py
     What do you want to do? (1 for login, 2 for register, 3 for exit): 1
     Please input username for login: OKOK
     Please input password for login: okok
     Logged in successfully
     Choose an option: (1 for upload, 2 for logout): 1
     Input the filename for upload:
```

Step 3 client 2 usage : input **python3 ./nowclient.py** in **terminal C** to run the app for client 2 (the font end).

Then input 1 to login, then input username and password, then input 1 to be ready for uploading document, similar with client 1 does.

```
TPUT    TERMINAL

○ zhangjingyi@zhangs-MacBook-Pro db % python3 ./nowclient.py      ○ zhangjingyi@zhangs-MacBook-Pro db % python3 ./nowclient.py
  What do you want to do? (1 for login, 2 for register, 3 for exit): 1    What do you want to do? (1 for login, 2 for register, 3 for exit): 1
  Please input username for login: OKOK                          Please input username for login: wewe
  Please input password for login: okok                          Please input password for login: wewe
  Logged in successfully                                         Logged in successfully
  Choose an option: (1 for upload, 2 for logout): 1              Choose an option: (1 for upload, 2 for logout): 1
  Input the filename for upload:                                 Input the filename for upload:
```

Step 4 upload document for both clients: I upload [**grade.pdf**] for client 1, and upload [**resume.pdf**] for client2, so we see both analyzing report can be formed. The analyzing report is long , you can see [**result_of_grade.txt**] and [**result_of_example.txt**] since these documents print out the analyzing result of these two documents. You can use other pdf and txt documents to test.

```
TPUT   TERMINAL

zhangjingyi@zhangs-MacBook-Pro db % python3 ./nowclient.py
What do you want to do? (1 for login, 2 for register, 3 for exit): 1
Please input username for login: OKOK
Please input password for login: okok
Logged in successfully
Choose an option: (1 for upload, 2 for logout): 1
Input the filename for upload: grade.pdf
Document analyzed successfully with the following result:
Entities:
12/23/23, 10:04 AM (TIME); Boston University Office of the University
 Registrar
STUDENT GRADE REPORT FOR (ORG); December 23, (DATE); Jingyi Zhang (PE
RSON); 1st year (DATE); ENG EC504 (PRODUCT); ADV DATA (ORG); 14.8 4.0
 (CARDINAL); ENG (ORG); 16.0 4.0 (CARDINAL); ENG EC602 (PRODUCT); 16.
0 4.0 (CARDINAL); ENG EK690 A1 CAREER LAB MS (PRODUCT); F 0.0 1.0 (PR
ODUCT); PDP (ORG); 0.0 1.0 (CARDINAL); 46.8 (CARDINAL); Total Credit
Hours (EVENT); 14.0 (CARDINAL); Semester Grade Point (ORG); 3.60 (CAR
DINAL); Cum Grade Point (ORG); 3.60 (CARDINAL); December 23, 2023 (DA
TE); Boston University Grading System (ORG); Explanation
Grade per Credit Hour (ORG); 4.0 (CARDINAL); 3.7 (CARDINAL); 3.3 (CAR
DINAL); 2.7 (CARDINAL); 2.3 (CARDINAL); 2.0 (CARDINAL); NC Not Applic
able (WORK_OF_ART); F* Not Applicable Fail (PRODUCT); J Not Applicabl
e Registration (WORK_OF_ART); Grade (ORG); 1/1 (CARDINAL)

Keywords:
AM, STUDENT, FALL, Name, 1st, year, Hours, A-, B+, B, C+, C, D, Credi
t, Credit, degree, Credit, acceptable, degree, P, P, course, course,
Additional, work, same, course, Applicable, Applicable, Unresolved, h
ttps://www.bu.edu/link/bin/uiscgi_studentlink.pl/HREF=https://www.bu.
edu/link/bin/uiscgi_studentlink.pl/1703343829?applpath=grades_print.p
l&StudentKe

Sentiment Polarity: 0.07727272727272726

Summary:
12/23/23, 10:04 AM Grades
Boston University Office of the University Registrar
STUDENT GRADE REPORT FOR FALL 2023
AS OF December 23, 2023
Name: Jingyi Zhang College of Registration: ENG
ID Number: U26-57-8499 Class Year: Graduate 1st year
```

```
zhangjingyi@zhangs-MacBook-Pro db % python3 ./nowclient.py
What do you want to do? (1 for login, 2 for register, 3 for exit): 1
Please input username for login: wewe
Please input password for login: wewe
Logged in successfully
Choose an option: (1 for upload, 2 for logout): 1
Input the filename for upload: resume.pdf
Document analyzed successfully with the following result:
Entities:
JINGYIZHANG(ALISIAZHANG (PRODUCT); Github (GPE); jyz0328
Phone:765-746-9037|email (PERSON); jyz0328@bu.edu|Boston (GPE); MA (GP
E); BOSTONUNIVERSITY (ORG); Sep2023-ExpectedJune2025 (PERSON); TaiChun
g (GPE); Taiwan (GPE); China (GPE); Data Structure, Probabilistic Methods (ORG); Di
gital System Design (ORG); Data Science (ORG); WORKINGEXPERIENCE (GPE)
; Shanghai (GPE); China (GPE); June2023 (GPE); Aug2023 (GPE); Performe
ddatacleaningusingpythononsummerweatherandirradiancedata (ORG); Applie
dPearson (ORG); Spearman (GPE); andKendallcorrelationmethodforcorrelat
ionanalysis (ORG); Developedatimeseriesforecastingmodelbasedon
LSTM(LongShort (PERSON); 75%to92% (PERCENT); Alsopresentedthemodeltoth
ewholecompanyforfuturereferenceandfeedback (PERSON); PROJECTSEXPERIENC
E (TIME); AI (ORG); FerriMetric (GPE); Appliedrandomforestalgorithmont
hedatato (PERSON); Sep2023-Dec2023 (PERSON); ISD-OCCDALIYDETAILApplica
tion PurdueUniversity (ORG); DesignedandImplementedtheloginauthenticat
ionfeatureusingC++ (PERSON); TikTokreminder (ORG); Designedanandroidap
pwhichremindpeoplewhenshouldtheydowhat (PERSON); OtherProjects (ORG);
GUARDTOURSUYSTEM (ORG); LASERHARPPROJECT (ORG); SQL (ORG); Git (GPE);
AWS (ORG); AndroidStudio (ORG); Matlab (ORG); Critical Thinking (ORG);
 Data Science (ORG); Computer Engineering (ORG); Economics,Algorithm (
ORG); Microsoftoffice (GPE)

Keywords:
ExpectedJune2025, Aug2020, May2023, 口, Designedandimplementedapredicti
vemodelforphotovoltaicpanelpowerusagebasedonsummerweather, andirradian
cedataattributes, includingtemperature, pressure, andhorizontal, verti
cal, scatterirradiance, prediction, model, implementation, power, usag
e, prediction, accuracy, %, Alsopresentedthemodeltothewholecompanyfor
futurereferenceandfeedback, Co, nutritional, deficiencies, detection, t
ool, order, 口, IntegratedwithAPItocrawlandextractthenutritionalinforma
tionoftop5popularmealsfrom10countries, usingEnglish, Cleanedandprepare
ddataintojsonformat, predictpatient'sironbioavailabilityofironandblood
transferrinsaturation, 口, DesignedandimplementedaC++application, neare
```

Step 5: input 2 and 3 to exit, or upload other document you want to test.

```
T   TERMINAL                                                    ^ X

Total Credit Hours 14.0                          calculatingtheneareststatefromthegiveninputlocation.
Semester Grade Point Index 3.60                  BikeTrafficpythonPredictionTool PurdueUniversity,May2022-August2022
Cum Grade Point Average 3.60 (As of December 23, 2023)   口 Designedanddevelopedapredictiontoolusingpythonwhichhelpsinforecastin
Boston University Grading System                 gbiketrafficduringdifferent
Letter Honor Points                              timeperiodsandrecommendedpositionstoinstallsensorsforrealtimesafetymon
Explanation                                      itoring..
Grade per Credit Hour                            口 Developed the prediction model using multivariate linear regression
A 4.0 Excellent                                  model by analyzing relationships
A- 3.7                                           betweendailyweatherforecastdata(5attributesincludingtemperature,(low/h
B+ 3.3                                           ightemperatureand
B 3.0 Good                                       precipitation andbicycletrafficusingsklearn.
B- 2.7                                           口 Implemented R square algorithm on calculating positions with predict
C+ 2.3                                            ed maximum traffic flow for installing
C 2.0 Satisfactory                               sensors..
C- 1.7                                           ISD-OCCDALIYDETAILApplication PurdueUniversity,Jan2021-May2021
D 1.0 Low Pass                                   口 OCCDailyDetailisanappdesignedforISD(Indianaschoolforthe Deaf)forteach
F 0.0 Fail; No Credit                            ersgivingparentsprompt
AU Not Applicable Audit; No Credit Earned        feedbackforstudentsontheirengagementandactivitiesatschool.
CR Not Applicable Credit; Acceptable for degree  口 Enhancedtheiosfrontendfeaturesonformatting,displayingandaestheticsin
NC Not Applicable No Credit; Not acceptable for degree   cludingusingCandswfit.
H Not Applicable Honors                          口 DesignedandImplementedtheloginauthenticationfeatureusingC++.
P Not Applicable Pass with Credit                口 Implementedtheapplocalizationfeaturewhichtranslatestheapplicationbet
P* Not Applicable Pass, P/F course               weenEnglishandSpanishusing
F* Not Applicable Fail, P/F course               C++and java.
I Not Applicable Incomplete; Additional work required    TikTokreminder FengChiaUniversitySep2019-Dec2019
J Not Applicable Registration in the same or continuing course req   口 Designedanandroidappwhichremindpeoplewhenshouldtheydowhat.
uired                                            OtherProjects:Beautiful"handwriting"machine,GUARDTOURSUYSTEM,LASERHARP
W Not Applicable Withdrew                         PROJECT
MG Not Applicable Missing Grade; Grade not assigned   SKILLS
X Not Applicable Unresolved                      Languages/Tools: C/C+,Java,Python,SQL,Git,AWS,AndroidStudio,Matlab,PCB
https://www.bu.edu/link/bin/uiscgi_studentlink.pl/HREF=https://www   design,webdesign
.bu.edu/link/bin/uiscgi_studentlink.pl/1703343829?applpath=grades_   Other: Machine learning, Critical Thinking , Data Science, Data visual
print.pl&StudentKe… 1/1.                         ization,Computer Engineering, System
                                                 design,Economics,Algorithm,dataanalysis,Microsoftoffice,statistics,com
Choose an option: (1 for upload, 2 for logout): 2   puterscience.
Logging out successfully...
zhangjingyi@zhangs-MacBook-Pro db %              Choose an option: (1 for upload, 2 for logout): 2
                                                 Logging out successfully...
                                                 What do you want to do? (1 for login, 2 for register, 3 for exit): 3
                                                 Exiting...
                                                 zhangjingyi@zhangs-MacBook-Pro db %
                                          Ln 2, Col 40 (22 selected)   Spaces: 4   UTF-8   LF   {} Python   3.10.5 64-bit
```