

```
!pip install openai
```

```
Collecting openai
```

```
  Downloading openai-0.27.8-py3-none-any.whl (73 kB)
```

```
73.6/73.6 kB 4.4 MB/s eta
```

```
Requirement already satisfied: requests>=2.20 in /usr/local/lib/python3.10/dist
```

```
Requirement already satisfied: tqdm in /usr/local/lib/python3.10/dist-packages
```

```
Requirement already satisfied: aiohttp in /usr/local/lib/python3.10/dist-packag
```

```
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/local/lib/python3.
```

```
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/
```

```
Requirement already satisfied: charset-normalizer~=2.0.0 in /usr/local/lib/pyth
```

```
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-p
```

```
Requirement already satisfied: attrs>=17.3.0 in /usr/local/lib/python3.10/dist-
```

```
Requirement already satisfied: multidict<7.0,>=4.5 in /usr/local/lib/python3.10
```

```
Requirement already satisfied: async-timeout<5.0,>=4.0.0a3 in /usr/local/lib/py
```

```
Requirement already satisfied: yarl<2.0,>=1.0 in /usr/local/lib/python3.10/dist
```

```
Requirement already satisfied: frozenlist>=1.1.1 in /usr/local/lib/python3.10/d
```

```
Requirement already satisfied: aiosignal>=1.1.2 in /usr/local/lib/python3.10/di
```

```
Installing collected packages: openai
```

```
Successfully installed openai-0.27.8
```

```
import pandas as pd
```

```
import openai, numpy as np
```

```
from openai.embeddings_utils import get_embedding, cosine_similarity
```

```
api_key='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'
```

```
openai.api_key=api_key
```

```
sentences=["Create a session",
            "Remove a session",
            "Invalidate a session",
            "Get session details",
            "AddNew Flight",
            "Drop Flight",
            "Update Flight",
            "Store Flight Segment",
            "Search flight",
            "Search flight by FlightId",
            "Search flight by Airport",
            "Search flight by DepartureDate",
            "Manage Airport Details",
            "Customer can Book a flight ",
            "Customer can View a booking",
            "Customer can Cancel a Booking",
            "Customer can View all the booking",
            "Register a customer",
            "update customer details",
            "Drop Customers Details",
            "Get customer details",
            "Manage Customer details"]
```

```
resp=openai.Embedding.create(
    input=sentences,
```

```
engine="text-similarity-davinci-001")
```

```
type(resp['data'])
```

```
list
```

```
len(resp['data'])
```

```
22
```

```
type(resp['data'][0])
```

```
openai.openai_object.OpenAIObject
```

```
resp['data'][0].keys()
```

```
dict_keys(['object', 'index', 'embedding'])
```

```
resp['data'][0]['embedding']
```

```
[-0.007586341816931963,  
 0.008247128687798977,  
 -0.013851109892129898,  
 0.0025462533812969923,  
 -0.0010316852713003755,  
 0.015071024186909199,  
 -0.0007830960093997419,  
 -0.011576478369534016,  
 0.007967565208673477,  
 -0.011595538817346096,  
 -0.0028750584460794926,  
 0.006518916692584753,  
 0.0071352277882397175,  
 -0.0017901606624945998,  
 0.002964010462164879,  
 -0.005969319958239794,  
 -0.013901939615607262,  
 0.001972830155864358,  
 -0.011315975338220596,  
 0.0011365216923877597,  
 -0.001683735870756209,  
 -0.0036057361867278814,  
 0.012370693497359753,  
 -0.0023747028317302465,  
 0.0016281408024951816,  
 0.004441250581294298,  
 0.013736742548644543,  
 -0.00010622625995893031,  
 -0.01434670016169548,  
 -0.008132761344313622,  
 -0.010451870039105415,  
 0.004755759611725807,  
 0.002242863178253174,
```

```

-0.01075049489736557,
-0.01402901392430067,
-0.0053466553799808025,
0.012319863773882389,
-0.003872592467814684,
0.006525270640850067,
0.007192410994321108,
-0.014613556675612926,
0.001968064811080694,
-0.002368349116295576,
-0.009123941883444786,
0.0023492879699915648,
0.004955901764333248,
0.0029338302556425333,
-0.008037456311285496,
0.007916735485196114,
0.00013164113624952734,
-0.008348788134753704,
-0.01221184991300106,
0.0010015051811933517,
-0.004803412593901157,
0.02280985563993454,
-0.021361207589507103,
-0.011944993399083614,
0.0017758647445589304,

```

```

for x in range(0, len(sentences)):
    embeddings=resp['data'][x]['embedding']

```

```

Dic1={}
outer1={}

```

```

for x in range(0, len(sentences)):

    print("for the usecase : ",sentences[x])
    print()
    print("for this usecase these are the following similarities(in sorted order) with the o
    print()
    for j in range(0, len(sentences)):
        Dic1[sentences[j]]=np.dot(embeddings[x],embeddings[j])
    sorted_data1 = sorted(Dic1.items(), key = lambda kv: kv[1],reverse=True)
    outer1[sentences[x]]=sorted_data1
    # print(sentences[j]," : ",np.dot(embeddings[x],embeddings[j]))
    for z in range (0, len(sorted_data1)):
        print(sorted_data1[z])
    print()

```

for the usecase : Create a session

for this usecase these are the following similarities(in sorted order) with the

```

('Invalidate a session', 0.00013095726931384652)
('AddNew Flight', 9.942103575402185e-05)
('update customer details', 9.681008528671271e-05)
('Customer can View all the booking', 7.459137374381079e-05)

```

('Create a session', 6.491549097892638e-05)  
('Search flight by FlightId', 6.01031408970186e-05)  
('Get customer details', 4.6715600353845754e-05)  
('Drop Flight', 4.244080264940043e-05)  
('Manage Customer details', 2.8643703749837122e-05)  
('Update Flight', 2.3613776963546905e-05)  
('Customer can Book a flight ', 2.0772444761988154e-05)  
('Register a customer', 3.8556369825944745e-07)  
('Store Flight Segment', -6.595378854217312e-07)  
('Customer can Cancel a Booking', -1.477460868240082e-06)  
('Get session details', -1.485940050054103e-05)  
('Search flight by Airport', -3.043553375252535e-05)  
('Customer can View a booking', -3.65277602638733e-05)  
('Search flight by DepartureDate', -3.7858834301742264e-05)  
('Manage Airport Details', -4.497496420774634e-05)  
('Remove a session', -7.172445024171761e-05)  
('Search flight', -0.00010884095298780219)  
('Drop Customers Details', -0.00011457481499934849)

for the usecase : Remove a session

for this usecase these are the following similarities(in sorted order) with the

('Drop Customers Details', 0.00012659252042078115)  
('Search flight', 0.00012025723597113361)  
('Remove a session', 7.924759845298959e-05)  
('Manage Airport Details', 4.9692369784104864e-05)  
('Search flight by DepartureDate', 4.182983192665447e-05)  
('Customer can View a booking', 4.035914207809171e-05)  
('Search flight by Airport', 3.362790442302567e-05)  
('Get session details', 1.6417996933409864e-05)  
('Customer can Cancel a Booking', 1.6324311336191218e-06)  
('Store Flight Segment', 7.287165441114096e-07)  
('Register a customer', -4.26005316663165e-07)  
('Customer can Book a flight ', -2.295125798576665e-05)  
('Update Flight', -2.6090616358285905e-05)  
('Manage Customer details', -3.1648130105195287e-05)  
('Drop Flight', -4.689240105776402e-05)  
('Get customer details', -5.161558054269516e-05)  
('Search flight by FlightId', -6.640733473060531e-05)  
('Create a session', -7.172445024171761e-05)  
('Customer can View all the booking', -8.241523238707547e-05)  
('update customer details', -0.00010696445548409074)  
('AddNew Flight', -0.00010984926747660724)  
('Invalidate a session', -0.0001446933236589308)

for the usecase : Invalidate a session

for this usecase these are the following similarities(in sorted order) with the

