In [ ]:

```
!pip install -qU openai
```

```
   ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 389.6/389.6 kB 6.3 MB/s eta 0:00:00
```

In [ ]:

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount
("/content/drive", force_remount=True).
```

In [ ]:

```
import openai

with open("/content/drive/MyDrive/Upgrad/APIKey.txt", "r") as f:
  openai.api_key = ' '.join(f.readlines())
openai.api_key
```

Out[ ]:

```
'sk-proj-gGcpzznKGAJ__zIcagC8OQp_sou6vhu-i7HQI7gRXyWYEeK7vDub71qodJeSlZX-R3fhfiGutDT3Blbk
FJDGw_Bq9tSYXOIQbM72hunOD7UyK26eeZp4ltMPylYm_dgBKV3h_pSudt07tMYB3QFFV_kG7-4A'
```

In [ ]:

```
#Travel Planner AI Project
##Travel Planner AI: Develop a chatbot that assists travellers in planning their trips. I
t can recommend top hotels and suggest itineraries based on user-specified destinations.#
#

## 1.
#First initialiseConversation - In this layer , prompt will be prepared , where you will
train the prompt to answer to your query , you will get the output as a message and store
#message in a variable

##2chat completion api to be called for 4.o version , where the input will be passed from
step 1 and check the response and save it in a variable

##3 create a method to check if it has got all the information for {Travel Data} ask the
method to pass yes or not , if not then ask for more questions to user and keep adding th
e input(new messages) to the initial debug_conversation chat
# and parallelly check the response
```

In [ ]:

```
import openai
import pandas as PD
import random

with open("/content/drive/MyDrive/Upgrad/APIKey.txt", "r") as f:
 openai.api_key = ' '.join(f.readlines())


def initilise_conversation():

  TravelData = {
      "travel budget":"100000",
      "travel motive":"Business",
      "travel type":"Solo",
      "travel destination":"Germany",
      "travel duration":"One month",
      "travel month":"December",
      "accommodation Preference":"5 star hotel",
      "travel mode" :"plane"
              }
```

```
  prompt = f'''You are a expert travel agent and has been working in travel industry from last 10 years . You are considered as one of the best resource in suggesting the travel package based on the user requirements .
  you have to ask them the requirement where the user wants visit whether the user wishes to visit cold area or area having rainfall or desert area or high tech places which are upto date in terms of technology or user want to visit country side
  .You have to confirm the budget and number of days for which user is planing to visit . You should keep in mind to ask whether it is a solo trip or family trip .

  You may also consider asking about what type of stay user wants to have , like user wants to stay in hotel or shared accomodation or user is going to stay at his own .Also consider the travel mode into consideration ,whether user prefers to
  travel by train or plane or bus or taxi .

  you have to keep asking the questions from user till the time you donot have the values for (travel budget , travel motive ,travel type , travel destination , travel duration , travel month) .All the keys (travel budget , travel motive ,travel type , travel destination , travel duration , travel month)
  should have data from the user based on the user requirement .

  Also few points like visa requirement is there or not , whether it is a business travel or travelling with friends or with family .

  Here is a sample conversation between the user and assistant:
      User: "Hi, I am an travel buddy."
      Assistant: "Great! As an traveller, you likely to travel somewhere and visit new place . Please share your requirement what is the motive of travel , travel duration and mode prefered for travelling and what is the maximum budget"
      User: "I am travelling for my office meeting and it will be visit to canada"
      Assistant: "Thank you for providing that information.Do you have some specific dates on which you prefer to travel "
      User: "Yes, I would like to tavel in month of december near to new year"
      Assistant: "Thank you for the information.I would like to ask whether you have visited canada earlier , do you hold valid visa for canada"
      User: "Yes, I keep visiting canada and I have multiple entry visa with me "
      Assistant:"Could you kindly let me know your budget for the travel? This will help me find options that fit within your price range while meeting the specified requirements."
      User: "my max budget is 1.5lakh inr"
      Assistant:"Are you flexible with date of travel"
      User: "No , not at all .My travel dates are fixed .I will travel in december near to new year"

  You can also refer to some chain of thoughts
  ####
    You can refer to this chain of thought
    Thought 1 : First thing when you start , try to understand the user requirement .What the user is looking for .Say if the user needs to travel for office work or business , then
    suggest a 5 star hotel , suggest user to travel via business class . if you understand the question , fill the respective value in the keys (travel budget , travel motive ,travel type , travel destination , travel duration , travel month)
    In case if you unable to understand the question , keep asking the question to user till the time you didnot understand the requirement completely
    and till the time you are unable to fill the values in (travel budget , travel motive ,travel type , travel destination , travel duration , travel month) based on customer requirement
  ####

  ####
    You can refer to this chain of thought
    Thought 1 : If the user wants to travel within same country (in which he is currently) then consider this as a domestic trip and suggest him a low budget user friend trip .
    Suggest him how he can save money by travelling in train instead of plane if money is a constraint .Suggest user to live in shared accomodation or stay in some paying guest .
  ####

  Start with a short welcome message and encourage the user to share their requirements.you have to keep asking the questions till the time you didnot get the answers to all the keys in the input {TravelData}
    '''
```

```
  messages_history = [{"role": "system", "content": prompt}]
  return messages_history
```

New section

In [ ]:

```
debug_conversation = initilise_conversation()
debug_conversation
```

Out[ ]:

```
[{'role': 'system',
  'content': 'You are a expert travel agent and has been working in travel industry from
last 10 years . You are considered as one of the best resource in suggesting the travel p
ackage based on the user requirements .\n  you have to ask them the requirement where the
user wants visit whether the user wishes to visit cold area or area having rainfall or de
sert area or high tech places which are upto date in terms of technology or user want to
visit country side\n  .You have to confirm the budget and number of days for which user i
s planing to visit .You should keep in mind to ask whether it is a solo trip or family tr
ip .\n\n  You may also consider asking about what type of stay user wants to have , like
user wants to stay in hotel or shared accomodation or user is going to stay at his own .A
lso consider the travel mode into consideration ,whether user prefers to \n  travel by tr
ain or plane or bus or taxi .\n\n  you have to keep asking the questions from user till t
he time you donot have the values for (travel budget , travel motive ,travel type , trave
l destination , travel duration , travel month) .All the keys (travel budget , travel mot
ive ,travel type , travel destination , travel duration , travel month)\n  should have da
ta from the user based on the user requirement .\n\n  Also few points like visa requireme
nt is there or not , whether it is a business travel or travelling with friends or with f
amily .\n\n  Here is a sample conversation between the user and assistant:\n      User: "
Hi, I am an travel buddy."\n      Assistant: "Great! As an traveller, you likely to trave
l somewhere and visit new place . Please share your requirement what is the motive of tra
vel , travel duration and mode prefered for travelling and what is the maximum budget"\n
User: "I am travelling for my office meeting and it will be visit to canada"\n      Assis
tant: "Thank you for providing that information.Do you have some specific dates on which
you prefer to travel "\n      User: "Yes, I would like to tavel in month of december near
to new year"\n      Assistant: "Thank you for the information.I would like to ask whether
you have visited canada earlier , do you hold valid visa for canada"\n      User: "Yes, I
keep visiting canada and I have multiple entry visa with me "\n      Assistant:"Could you
kindly let me know your budget for the travel? This will help me find options that fit wi
thin your price range while meeting the specified requirements."\n      User: "my max bud
get is 1.5lakh inr"\n      Assistant:"Are you flexible with date of travel"\n      User:
"No , not at all .My travel dates are fixed .I will travel in december near to new year"\
n\n  You can also refer to some chain of thoughts \n  ####\n    You can refer to this cha
in of thought\n    Thought 1 : First thing when you start , try to understand the user re
quirement .What the user is looking for .Say if the user needs to travel for office work
or business , then\n    suggest a 5 star hotel , suggest user to travel via business clas
s . if you understand the question , fill the respective value in the keys (travel budget
, travel motive ,travel type , travel destination , travel duration , travel month)\n
In case if you unable to understand the question , keep asking the question to user till
the time you didnot understand the requirement completely\n    and till the time you are
unable to fill the values in (travel budget , travel motive ,travel type , travel destina
tion , travel duration , travel month) based on customer requirement\n  ####\n\n  ####\n
You can refer to this chain of thought\n    Thought 1 : If the user wants to travel withi
n same country (in which he is currently) then consider this as a domestic trip and sugge
st him a low budget user friend trip .\n    Suggest him how he can save money by travelli
ng in train instead of plane if money is a constraint .Suggest user to live in shared acc
omodation or stay in some paying guest .\n  ####\n\n  Start with a short welcome message
and encourage the user to share their requirements.you have to keep asking the questions
till the time you didnot get the answers to all the keys in the input {\'travel budget\':
\'100000\', \'travel motive\': \'Business\', \'travel type\': \'Solo\', \'travel destinat
ion\': \'Germany\', \'travel duration\': \'One month\', \'travel month\': \'December\', \
'accommodation Preference\': \'5 star hotel\', \'travel mode\': \'plane\'}\n    '}]
```

In [ ]:

```
#Calling the chat completion api , which will take the input from above method
```

```
def getChatCompletion(messages):
  chat_response = openai.chat.completions.create(
    model="gpt-4o",
    max_tokens=  900,
    temperature= 0,
    messages=messages
  )
  return chat_response.choices[0].message.content

debug_introduction = getChatCompletion(debug_conversation)
debug_introduction
```

Out[ ]:

"Hello! I'm here to help you plan your perfect travel experience. Could you please share your travel requirements? For instance, are you looking to visit a cold area, a place wit h rainfall, a desert, a high-tech city, or the countryside? Additionally, let me know you r travel budget, the purpose of your trip, whether it's a solo or family trip, your prefe rred travel destination, duration, and the month you plan to travel. Also, do you have an y preferences for accommodation and mode of travel? Let's get started!"

In [ ]:

```
#Moderation API to check the user input
from openai import OpenAI
with open("/content/drive/MyDrive/Upgrad/APIKey.txt", "r") as f:
  openai.api_key = ' '.join(f.readlines())
openai.api_key
client = OpenAI(api_key=openai.api_key)


def ModerationCheck(input_msg):

  errors = {
          "hate": "Content that expresses, incites, or promotes hate based on race, gende
r, ethnicity, religion, nationality, sexual orientation, disability status, or caste.",
          "hate/threatening": "Hateful content that also includes violence or serious har
m towards the targeted group.",
          "self-harm": "Content that promotes, encourages, or depicts acts of self-harm,
such as suicide, cutting, and eating disorders.",
          "sexual": "Content meant to arouse sexual excitement, such as the description
of sexual activity, or that promotes sexual services (excluding sex education and wellnes
s).",
          "sexual/minors": "Sexual content that includes an individual who is under 18 ye
ars old.",
          "violence": "Content that promotes or glorifies violence or celebrates the suff
ering or humiliation of others.",
          "violence/graphic": "Violent content that depicts death, violence, or serious p
hysical injury in extreme graphic detail.",
      }

  client = OpenAI(api_key=openai.api_key)
  moderation_response=client.moderations.create(input=input_msg)


  categories=moderation_response.results[0].categories

  result=[]
  for category, value in categories:
    if value==True:
        result.append(errors[category])
  print(result)
```

In [ ]:

```
userInput1 = "I am looking to visit cold area having huge snowfall with my family"
vaidateTextFromUser = ModerationCheck(userInput1)
vaidateTextFromUser

debug_conversation.append({"role":"user","content":userInput1})

debug_response_assitant = getChatCompletion(debug_conversation)
```

```
vaidateTextFromAssistant = ModerationCheck(debug_response_assitant)
vaidateTextFromAssistant
debug_response_assitant
```

```
[]
[]
```

Out[ ]:

```
'That sounds like a wonderful plan! To help you better, could you please provide some mor
e details? \n\n1. What is your travel budget for this trip?\n2. How many days are you pla
nning to stay?\n3. Do you have a specific month in mind for your travel?\n4. What type of
accommodation do you prefer - a hotel, shared accommodation, or do you have your own arra
ngements?\n5. What mode of travel do you prefer - train, plane, bus, or taxi?\n6. Is this
trip purely for leisure, or is there another motive?\n7. Do you have any specific destina
tions in mind, or would you like suggestions? \n\nOnce I have this information, I can hel
p you plan the perfect snowy getaway for your family!'
```

In [ ]:

```
#This will help to check if system has all the parameters required from the user or not

from openai import OpenAI
with open("/content/drive/MyDrive/Upgrad/APIKey.txt", "r") as f:
  openai.api_key = ' '.join(f.readlines())
openai.api_key
client = OpenAI(api_key=openai.api_key)


def intent_confirmation_layer(response_assistant):
    prompt = """
    You are a senior evaluator who has an eye for detail.
    You are provided an input. You need to evaluate if the input has the following keys:
'travel budget' , 'travel motive' ,'travel type' , 'travel destination' , 'travel duratio
n' , 'travel month'
    Next you need to evaluate if the keys have the the values filled correctly.
    The values for all keys, except 'budget', should be 'low', 'medium', or 'high' based
on the importance as stated by user.
    The value for the key 'budget' needs to contain a number with currency.
    Output a string 'Yes' if the input contains the dictionary with the values correctly
filled for all keys.
    Otherwise out the string 'No'.


    Here is the input: {debug_response_assitant}
    Only output a one-word string - Yes/No.
    """

    confirmation = client.completions.create(
                                    model="gpt-3.5-turbo-instruct",
                                    prompt = prompt,
                                    temperature=0)




    return confirmation.choices[0].text
```

In [ ]:

```
ConfirmIntent = intent_confirmation_layer(debug_response_assitant)


if ConfirmIntent =='\nNo':
  userInput2 = "My maximum budget for this trip to canada  is 1000000 as this is a family
trip ,I am planing trip for around 1 month .I would like to travel in january mid and I p
refer to stay in 3 star hotel and for travel i love to travel in economic class plane"
  debug_conversation.append({"role":"user","content":userInput2})


debug_response_assitant = getChatCompletion(debug_conversation)
debug_response_assitant
```

Out[ ]:

```
"Thank you for sharing your requirements. Here's a summary of your travel preferences:\n\
n- **Travel Destination:** Canada\n- **Travel Motive:** Family trip\n- **Travel Type:** F
amily\n- **Travel Duration:** One month\n- **Travel Month:** Mid-January\n- **Travel Budg
et:** 1,000,000 INR\n- **Accommodation Preference:** 3-star hotel\n- **Travel Mode:** Eco
nomic class plane\n\nCould you please confirm if you have a valid visa for Canada, or if
you need assistance with the visa application process? Additionally, are there any specif
ic activities or places in Canada you are particularly interested in visiting during your
stay?"
```

In [ ]:

```
#This will help to extract the key value pairs from the complete response

from openai import OpenAI
with open("/content/drive/MyDrive/Upgrad/APIKey.txt", "r") as f:
  openai.api_key = ' '.join(f.readlines())
openai.api_key
client = OpenAI(api_key=openai.api_key)


def extract_userDemands(response_assistant):
    prompt = """
    You are tasked with extracting key-value pairs from a provided text, which summarizes
user information in a structured format. Your goal is to identify the keys and their corr
esponding values accurately and output them as a JSON object.

Instructions:
Look for the section in the text that outlines the details provided by the user. This wil
l typically appear as bullet points or a list of attributes and their values. Ignore any
additional questions or commentary outside this section.

Extract:

Keys: The bolded or labeled attributes (e.g., Travel Motive, ABCD, etc.).
Values: The corresponding information associated with each key (e.g., Solo trip, QWERTY,
etc.).
Format the output as a JSON object with:

Each extracted key as a JSON property.
Each corresponding value as the property's value.
Ensure proper formatting, with keys as strings and values as strings or appropriate forma
ts (e.g., numbers without commas).
Remove any units or formatting from numerical values (e.g., "5,000,000 INR" → "5000000").
Handle empty or missing values by assigning an empty string ("") as the value.

Retain proper capitalization and spacing as presented in the original text.

Example Input and Output:

Input Example 1: Thank you for sharing your requirements. Here's a summary of the informa
tion you've provided:

Travel Motive: Solo trip
Travel Destination: Canada
Travel Duration: 10 days
Travel Month: Feb
Travel Budget: 5,000,000 INR
Accommodation Preference: 3-star hotel
Travel Mode: Business class plane
Could you please confirm if you have a valid visa for Canada, or if you need assistance w
ith the visa application process? Additionally, are there any specific activities or plac
es in Canada you are particularly interested in visiting during your stay?

Output Example 1:
{
  "Travel Motive": "Solo trip",
  "Travel Destination": "Canada",
  "Travel Duration": "10 days",
  "Travel Month": "Feb",
```

```
  "Travel Budget": "5000000",
  "Accommodation Preference": "3-star hotel",
  "Travel Mode": "Business class plane"
}
Input Example 2: Thank you for sharing your requirements. Here's a summary of the informa
tion you've provided:

ABCD: QWERTY
IFGH: PARIS
ASDF: 25 months
TYUI: September
POIUY: 599 USD
UIOP: UJHG
CCVV: Business
Could you please confirm if you have a valid visa for Canada, or if you need assistance w
ith the visa application process? Additionally, are there any specific activities or plac
es in Canada you are particularly interested in visiting during your stay?

Output Example 2:

{
  "ABCD": "QWERTY",
  "IFGH": "PARIS",
  "ASDF": "25 months",
  "TYUI": "September",
  "POIUY": "599",
  "UIOP": "UJHG",
  "CCVV": "Business"
}
Provide a text input to extract the key-value pairs, and ensure the output strictly follo
ws the JSON format described above.
    Here is the input: {debug_response_assitant}
    """

    confirmation = client.completions.create(
                                    model="gpt-3.5-turbo-instruct",
                                    prompt = prompt,
                                    temperature=0,
                                    max_tokens=900)




    return confirmation.choices[0].text
```

In [ ]:

```
UserRequirementss = extract_userDemands(debug_response_assitant)
UserRequirementss
type(UserRequirementss)
```

Out[ ]:

```
str
```

In [ ]:

```
#Code below will help to convert the String input to python dict
import ast
import re


def extract_dictionary_from_string(string):
    regex_pattern = r"\{[^{}]+\}"


    dictionary_matches = re.findall(regex_pattern, string)


    # Extract the first dictionary match and convert it to lowercase
    if dictionary_matches:
        dictionary_string = dictionary_matches[0]
```

```
        dictionary_string = dictionary_string.lower()


        # Convert the dictionary string to a dictionary object using ast.literal_eval()
        dictionary = ast.literal_eval(dictionary_string)
    return dictionary
```

In [ ]:

```
UserTravelRequirement = extract_dictionary_from_string(UserRequirementss)
UserTravelRequirement

##################Stage 1 completed : till here - we have user requirement in hand which is in form of dict#######################################
```

Out[ ]:

```
{'travel motive': 'solo trip',
 'travel destination': 'canada',
 'travel duration': '10 days',
 'travel month': 'feb',
 'travel budget': '5,000,000 inr',
 'accommodation preference': '3-star hotel',
 'travel mode': 'business class plane'}
```

In [ ]:

```
#Stage 2 : you will create a dummy data having say 10-15 records , you will read that csv file
import pandas as PD
import numpy as NP
import openai
with open("/content/drive/MyDrive/Upgrad/APIKey.txt", "r") as f:
  openai.api_key = ' '.join(f.readlines())
openai.api_key
client = openai.OpenAI(api_key=openai.api_key)



#Read the Csv file for laptop data
PDD = PD.read_csv("/content/drive/MyDrive/Upgrad/updated_dummy_travel_data.csv")
Travel_Details = PDD['Summary']
Travel_Details


def getSortedDatafromDB(input):

  prompt = f"""you are a excellent evaluator and has good experience in sorting the data based on the required format .
  you have to read the input in form of plain english language and extract the mentioned key and values out of that

    while preparing the data you have to keep the following point into consideration :
    Here in the above json format  travel motive can have value Business trip or solo trip or Family vacation or Adventure trip or Honeymoon  .
    Here in the above json format  travel destination can have values like Canada  or Australia  or Switzerland  or Japan  or Thailand  or France  or Italy  or Maldives  or Dubai or South Africa  or Brazil  or New Zealand  or Spain  or Singapore  or USA  or Mexico  or India  or Germany  or Greece  or Iceland  or Canada  Vietnam  or Turkey  or Norway  or  Indonesia  or Argentina
    Here in the above json format  travel duration can have values in days like 10 days or 15 days or 8 days or 40 days and so on
    Here in the above json format  travel month can have values in months like january ,febuary , march , and son on till december
    Here in the above json format  travel mode can have values like Business class plane or Economy class plane or First class plane

  You have to prepare the data which should look like json having keys (travel motive , travel destination , travel duration , travel month , travel mode)

  you can consider few shots mentioned below for reference :
```

```
  Example 1 : Switzerland is a great place to visit, offering diverse attractions and act
ivities.
  Make sure to plan your trip to enjoy the best of what it offers.Enjoy the beautiful mar
ket places , cafes , scenaric beauty with family and friends .
  You may also involve in plethora of adventurous activies make your trip as Adventurous
trip and can plan trip of around 8 to 15 days and costing somewhat around 600000 INR to 9
00000 INR .
  Enjoy the pool sode room with window facing towards sea and enjoy the tasty food and dr
inks with complementary visit to near by market by hotel shuttle .
  Recommend to plan trip in novemeber or decemeber and for budget trip plan a trip by eco
nomic class plane .

  Output :
  {{
  "Travel Motive": "Adventurous trip",
  "Travel Destination": "Switzerland",
  "Travel Duration": "8 days",
  "Travel Month": "November",
  "Accommodation Preference": "5 star hotel",
  "Travel Mode": "Economic class plane"
}}

Provide a text input to extract the key-value pairs, and ensure the output strictly follo
ws the JSON format described above.
    Here is the input: {Travel_Details}
    """

  confirmation = client.completions.create(
                                    model="gpt-3.5-turbo-instruct",
                                    prompt = prompt,
                                    temperature=0,
                                    max_tokens=900)




  return confirmation.choices[0].text
```

In [ ]:

```
SortedDataFromDBSource = getSortedDatafromDB(Travel_Details)
SortedDataFromDBSource
```

Out[ ]:

```
'\n{\n  "Travel Motive": "Family vacation",\n  "Travel Destination": "Canada",\n  "Travel
Duration": "10 days",\n  "Travel Month": "February",\n  "Accommodation Preference": "5 st
ar hotel",\n  "Travel Mode": "Business class plane"\n}'
```

In [ ]:

```
PDD['Travel_Summary'] = PDD['Summary'].apply(lambda x: getSortedDatafromDB(x))
PDD.to_csv("/content/drive/MyDrive/Upgrad/updated1_dummy_travel_data.csv",index=False,hea
der=True)
```

In [ ]:

```
TravelDataUpdated = PDD['Travel_Summary']
TravelDataUpdated
```

Out[ ]:

	Travel_Summary
0	\n{\n "Travel Motive": "Family vacation",\n ...
1	\n{\n "Travel Motive": "Family vacation",\n ...
2	\n{\n "Travel Motive": "Family vacation",\n ...
3	\n{\n "Travel Motive": "Family vacation",\n ...
4	\n{\n "Travel Motive": "Family vacation",\n ...

	Travel_Summary
5	\n{\n "Travel Motive": "Family vacation",\n
6	\n{\n "Travel Motive": "Family vacation",\n ...
7	\n{\n "Travel Motive": "Family vacation",\n ...
8	\n{\n "Travel Motive": "Family vacation",\n ...
9	\n{\n "Travel Motive": "Family vacation",\n ...
10	\n{\n "Travel Motive": "Family vacation",\n ...
11	\n{\n "Travel Motive": "Family vacation",\n ...
12	\n{\n "Travel Motive": "Family vacation",\n ...
13	\n{\n "Travel Motive": "Family vacation",\n ...
14	\n{\n "Travel Motive": "Family vacation",\n ...
15	\n{\n "Travel Motive": "Family vacation",\n ...
16	\n{\n "Travel Motive": "Family vacation",\n ...
17	\n{\n "Travel Motive": "Family vacation",\n ...
18	\n{\n "Travel Motive": "Family vacation",\n ...
19	\n{\n "Travel Motive": "Family vacation",\n ...
20	\n{\n "Travel Motive": "Family vacation",\n ...
21	\n{\n "Travel Motive": "Family vacation",\n ...
22	\n{\n "Travel Motive": "Family vacation",\n ...
23	\n{\n "Travel Motive": "Family vacation",\n ...
24	\n{\n "Travel Motive": "Family vacation",\n ...
25	\n{\n "Travel Motive": "Family vacation",\n ...

dtype: object

In [ ]:

```
#Sorting the data from csv based on the user requirement

import numpy as NP
import pandas as PD
import re

##User Requirement
UserTravelRequirement

def getPackageNameBasedOnUserReq():
  userBudget = UserTravelRequirement['travel budget']
  userTravelDestination = (UserTravelRequirement['travel destination']).lower()


  #Lets create a copy of the laptop updated csv and then make the changes in that
  PDF= PDD.copy()

  # Convert 'Price' column to numeric, handling errors by coercing to NaN
  PTT = PDF['Travel Budget']
  # Convert pandas series to list of strings
  LL = PTT.astype(str).tolist()

  # Apply the filtering and conversion to each element of the list using a list comprehen
sion
  priceValuesInCSVFile = [int(re.sub(r"[^0-9]", "", item)) for item in LL]
  priceValuesInCSVFile

  #Sorting the data based on destinationa and budget from the csv file
  PTT = PDF[PDF['Travel Destination'].str.lower().isin([userTravelDestination])]
  FilteredRecordFromCSVOnUserPref = PTT[PTT['Travel Budget']<=userBudget]
  FilteredRecordFromCSVOnUserPref
  return FilteredRecordFromCSVOnUserPref['PackageName']
```

```
  #Provide the package Name to customer
#print('Best Package as per your requieremnt is ', FilteredRecordFromCSVOnUserPref['Packa
geName'])
```

In [ ]:

```
SuggestedTravelPackage = getPackageNameBasedOnUserReq()
SuggestedTravelPackage
```

Out[ ]:

	PackageName
0	SuperSaver Getaway

dtype: object

New section