DOCUMENTATION

RESTAURANT RECOMMENDATION CHATBOT

ChatBot

The chatbot was built with the intention to help people filter out the best possible restaurants which match their preferences like budget and can help them save time, money and possibly bad experiences.

It has several features including:

- *Accepts user input regarding location, cuisine preferences, and budget constraints.*
- *Asks for additional clarification if required.*
- *Retrieves and displays a list of restaurants that match the user's preferences.*
- *Allow users to filter the results based on specific criteria (e.g., ratings, price range, distance).*
- *Provides details such as restaurant names, addresses, contact information, and user ratings for each recommendation.*

Implementation

The chatbot was written in python language using several in built libraries like pandas, spacy, nltk ,numpy, sklearn, IPython.display, colorama and timeit. It uses several techniques some of which include entity recognition and content-based filtering.

Dataset

Dataset used for running this chat bot was scrapped from TripAdvisor and available on the website: https://www.kaggle.com/datasets/mikhailpustovalov/scraped-data-from-ta

Size: I had to restrict the dataset to 8000 valid entries as Jupyter kept crashing with larger sizes (Due to memory issues)

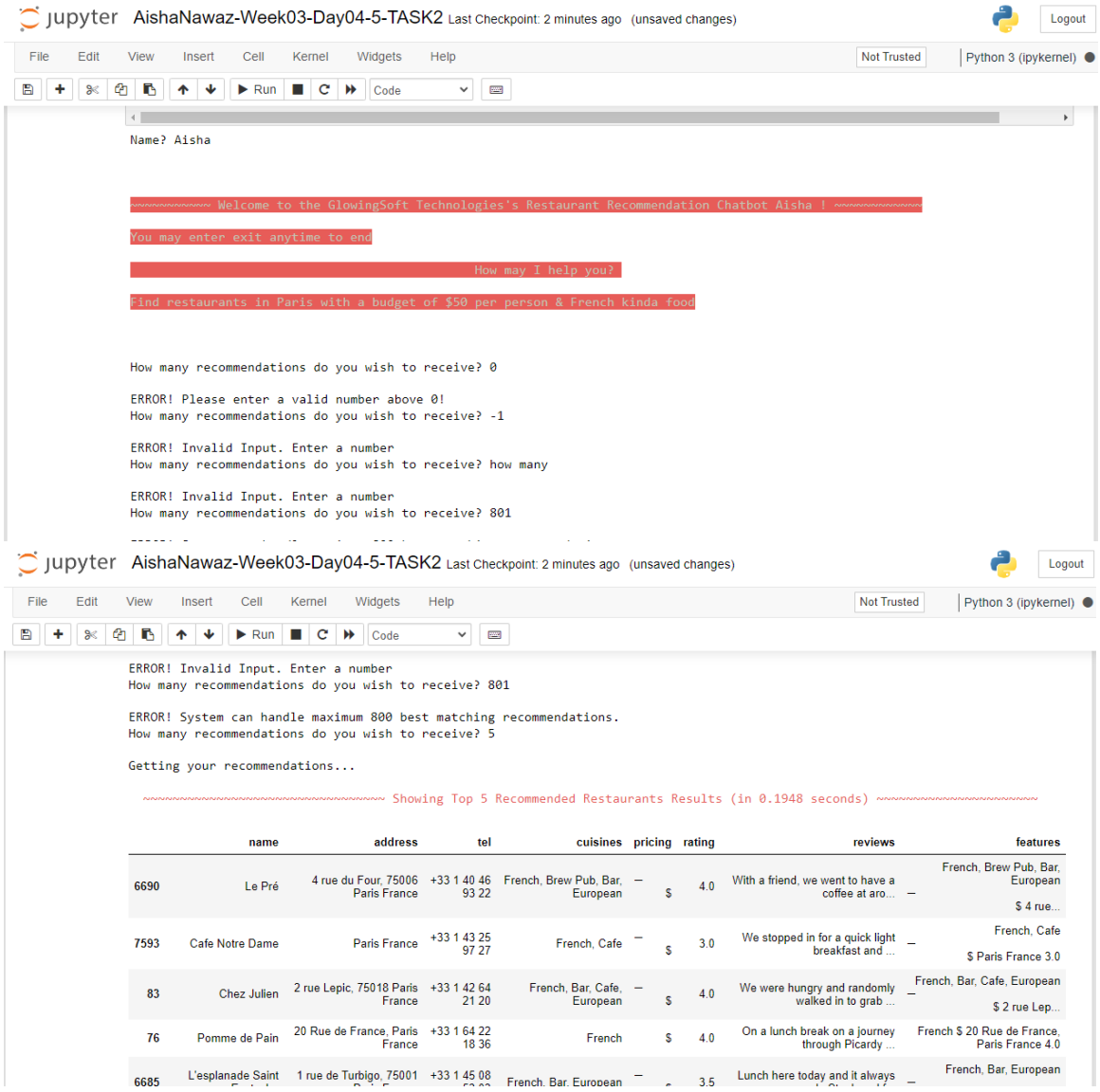
Limitations

Due to memory issues the dataset used was limited and the chatbot may not provide accurate information each time. The chatbot provides several best matchings and top-rated restaurants matches but at a time it can provide only 800 best matches.

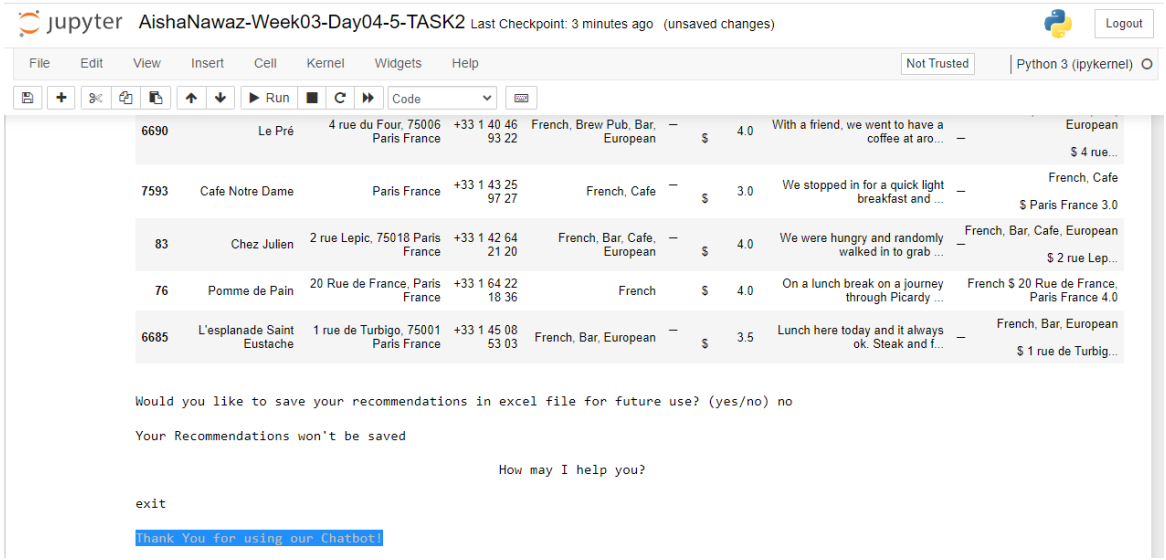
TEST CASES

1) Invalid User Inputs:

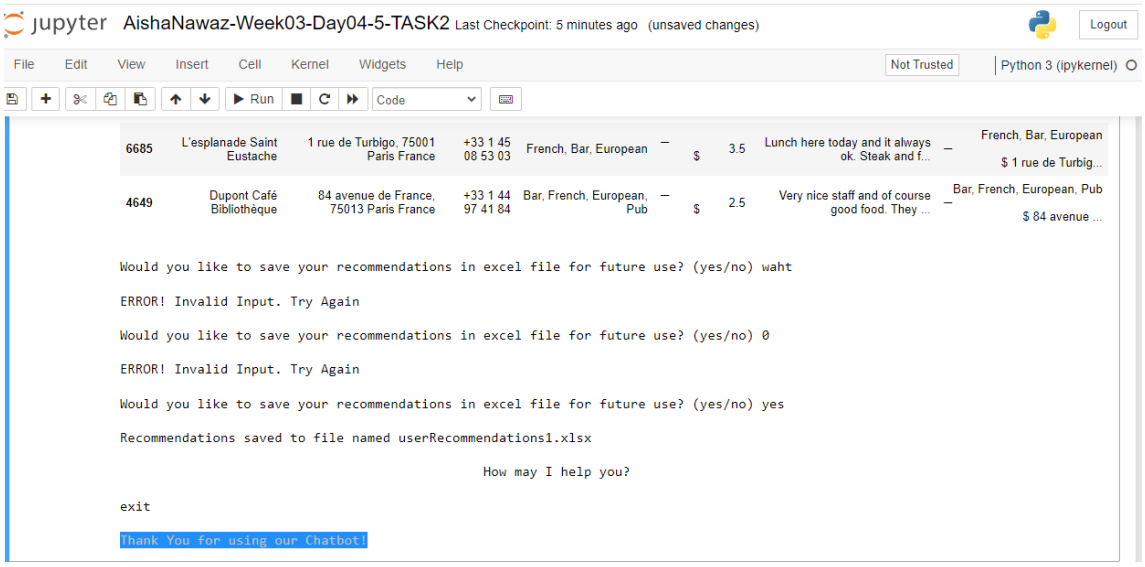
a) For number of recommendtions:



	name	address	tel	cuisines	pricing	rating	reviews	features
6690	Le Pré	4 rue du Four, 75006 Paris France	+33 1 40 46 93 22	French, Brew Pub, Bar, European	– $	4.0	With a friend, we went to have a coffee at aro...	– French, Brew Pub, Bar, European $ 4 rue...
7593	Cafe Notre Dame	Paris France	+33 1 43 25 97 27	French, Cafe	– $	3.0	We stopped in for a quick light breakfast and ...	– French, Cafe $ Paris France 3.0
83	Chez Julien	2 rue Lepic, 75018 Paris France	+33 1 42 64 21 20	French, Bar, Cafe, European	– $	4.0	We were hungry and randomly walked in to grab ...	– French, Bar, Cafe, European $ 2 rue Lep...
76	Pomme de Pain	20 Rue de France, Paris France	+33 1 64 22 18 36	French	$	4.0	On a lunch break on a journey through Picardy ...	French $ 20 Rue de France, Paris France 4.0
6685	L'esplanade Saint	1 rue de Turbigo, 75001	+33 1 45 08	French, Bar, European	–	3.5	Lunch here today and it always	– French, Bar, European

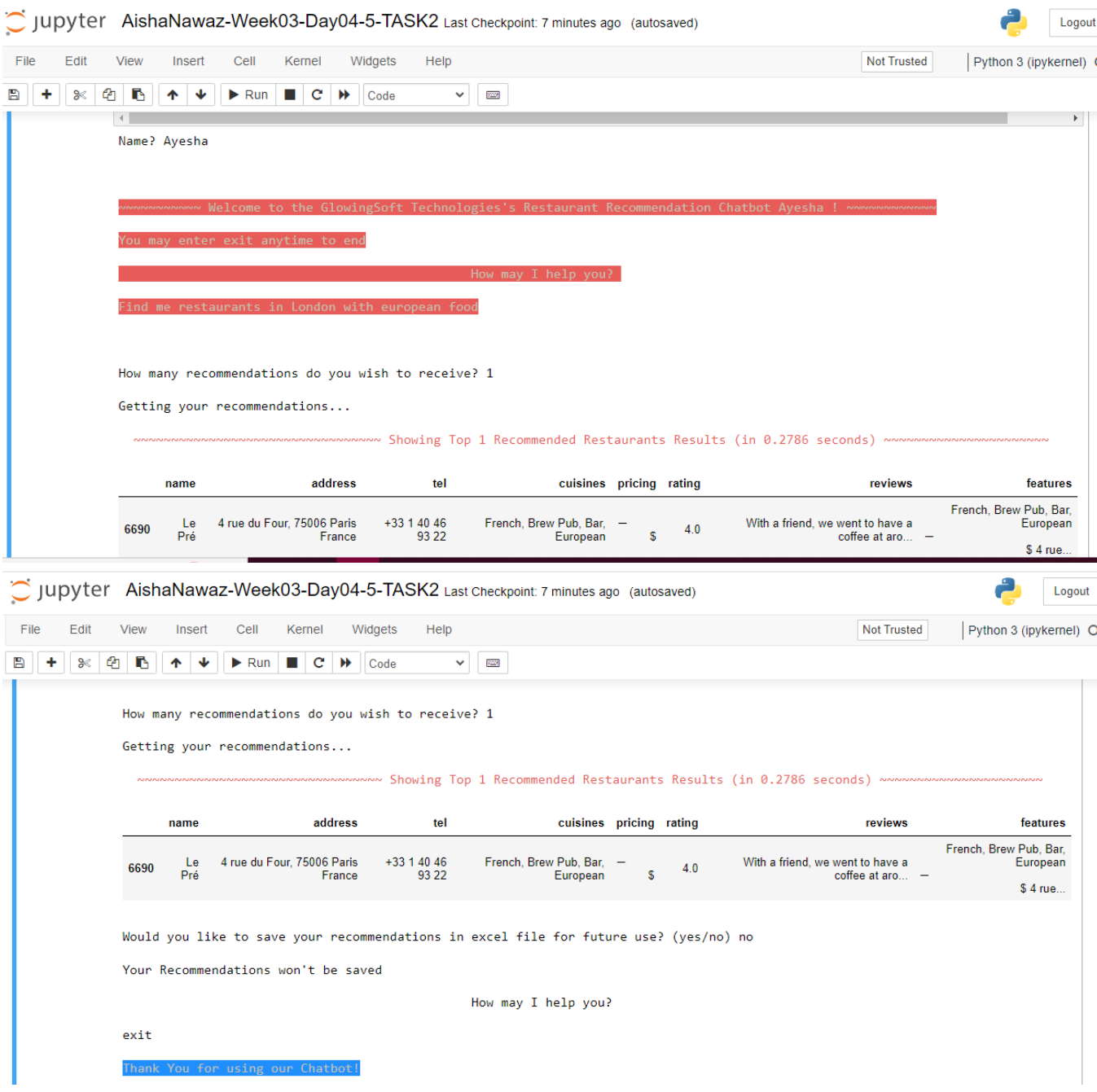


b) For saving preference:



2) User Prefernces testing:

a) Proper statements by user TEST1



jupyter AishaNawaz-Week03-Day04-5-TASK2 Last Checkpoint: 7 minutes ago (autosaved)

File Edit View Insert Cell Kernel Widgets Help — Not Trusted — Python 3 (ipykernel)

Run — Code

```
Name? Ayesha


~~~~~~~~~~~~~~ Welcome to the GlowingSoft Technologies's Restaurant Recommendation Chatbot Ayesha ! ~~~~~~~~~~~~~~~

You may enter exit anytime to end

                                                    How may I help you?

Find me restaurants in London with european food


How many recommendations do you wish to receive? 1

Getting your recommendations...

  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ Showing Top 1 Recommended Restaurants Results (in 0.2786 seconds) ~~~~~~~~~~~~~~~~~~~~~~~~
```

	name	address	tel	cuisines	pricing	rating	reviews	features
6690	Le Pré	4 rue du Four, 75006 Paris France	+33 1 40 46 93 22	French, Brew Pub, Bar, European	$	4.0	With a friend, we went to have a coffee at aro...	French, Brew Pub, Bar, European $ 4 rue...

jupyter AishaNawaz-Week03-Day04-5-TASK2 Last Checkpoint: 7 minutes ago (autosaved)

File Edit View Insert Cell Kernel Widgets Help — Not Trusted — Python 3 (ipykernel)

Run — Code

```
How many recommendations do you wish to receive? 1

Getting your recommendations...

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	name	address	tel	cuisines	pricing	rating	reviews	features
6690	Le Pré	4 rue du Four, 75006 Paris France	+33 1 40 46 93 22	French, Brew Pub, Bar, European	$	4.0	With a friend, we went to have a coffee at aro...	French, Brew Pub, Bar, European $ 4 rue...


```
Would you like to save your recommendations in excel file for future use? (yes/no) no

Your Recommendations won't be saved

                                                    How may I help you?

exit

Thank You for using our Chatbot!
```

TEST 2 (With Backend mode on i.e displays working of nlp):

jupyter AishaNawaz-Week03-Day04-5-TASK2 Last Checkpoint: 27 minutes ago (unsaved changes)

Logout

File Edit View Insert Cell Kernel Widgets Help | Not Trusted | Python 3 (ipykernel)

Run | Code

```
Name? Aisha

~~~~~~~~~~~~ Welcome to the GlowingSoft Technologies's Restaurant Recommendation Chatbot Aisha ! ~~~~~~~~~~~~~

You may enter exit anytime to end

                                               How may I help you?

Find restaurants with European food in France


User Input is: Find restaurants with European food in France

Natural Language Understanding Module Running (In Backend Visible Mode)..

Extracted Information-->

Location : France
Cuisine Preferences: European


How many recommendations do you wish to receive? 3

Getting your recommendations...
```

jupyter AishaNawaz-Week03-Day04-5-TASK2 Last Checkpoint: 28 minutes ago (unsaved changes)

Logout

File Edit View Insert Cell Kernel Widgets Help | Not Trusted | Python 3 (ipykernel)

Run | Code

```
How many recommendations do you wish to receive? 3

Getting your recommendations...

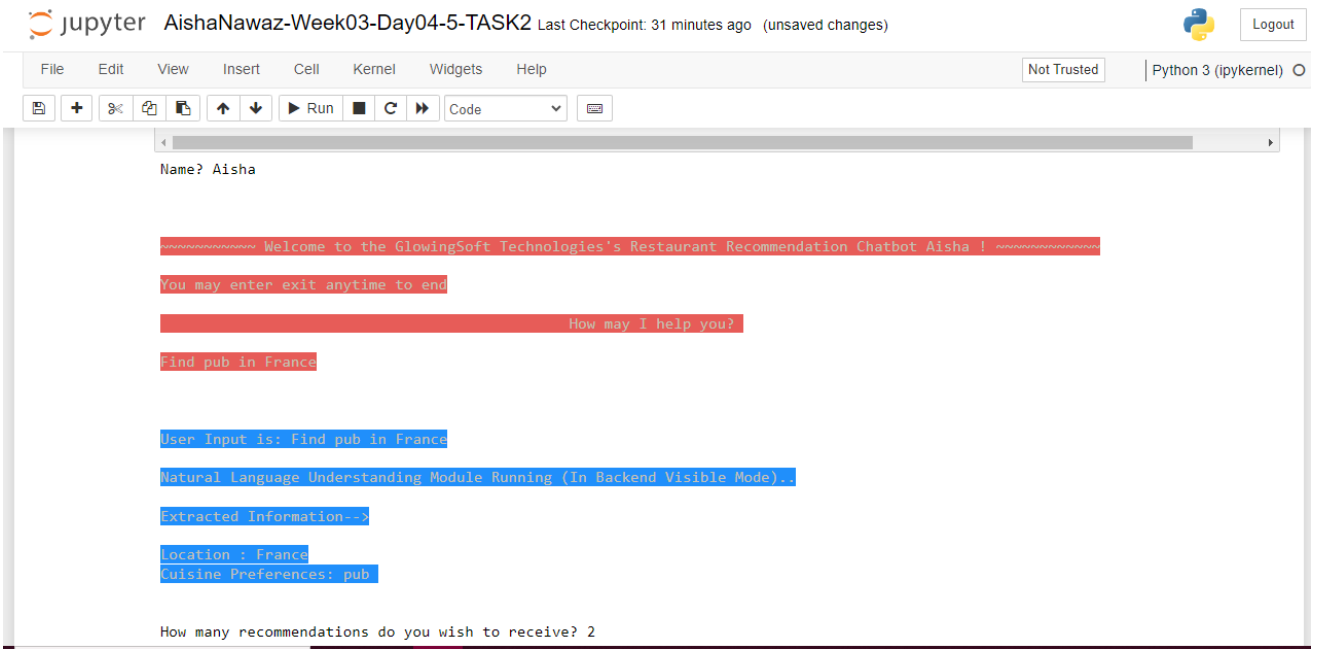
  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ Showing Top 3 Recommended Restaurants Results (in 0.1819 seconds) ~~~~~~~~~~~~~~~~~~~~~~
```

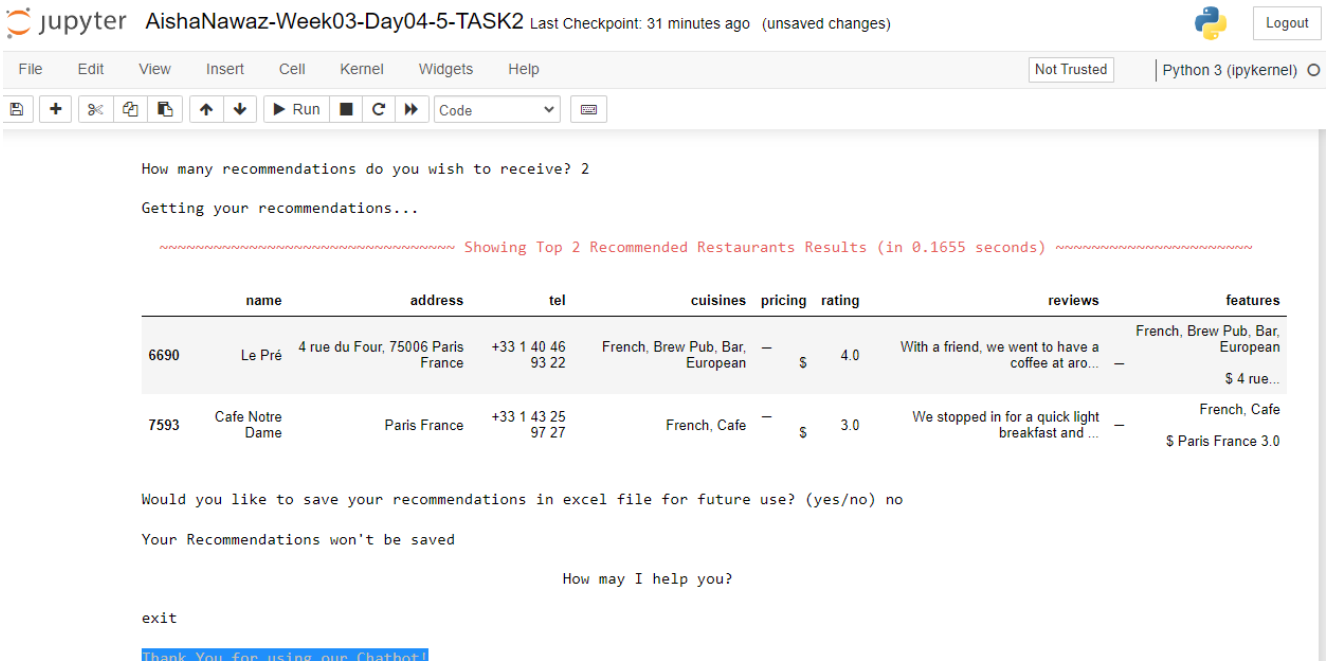
	name	address	tel	cuisines	pricing	rating	reviews	features
6690	Le Pré	4 rue du Four, 75006 Paris France	+33 1 40 46 93 22	French, Brew Pub, Bar, European	— $	4.0	With a friend, we went to have a coffee at aro... —	French, Brew Pub, Bar, European $ 4 rue...
7593	Cafe Notre Dame	Paris France	+33 1 43 25 97 27	French, Cafe	— $	3.0	We stopped in for a quick light breakfast and ... —	French, Cafe $ Paris France 3.0
83	Chez Julien	2 rue Lepic, 75018 Paris France	+33 1 42 64 21 20	French, Bar, Cafe, European	— $	4.0	We were hungry and randomly walked in to grab ... —	French, Bar, Cafe, European $ 2 rue Lep...

```
Would you like to save your recommendations in excel file for future use? (yes/no) no

Your Recommendations won't be saved
```

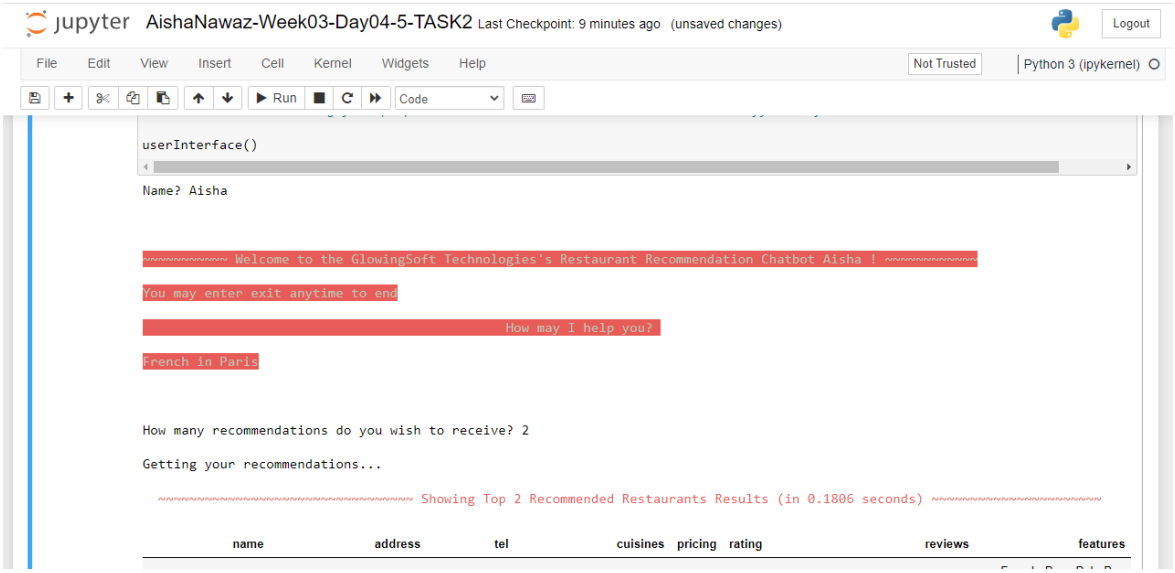
TEST 3 (With Backend mode on .e displays working of nlp)

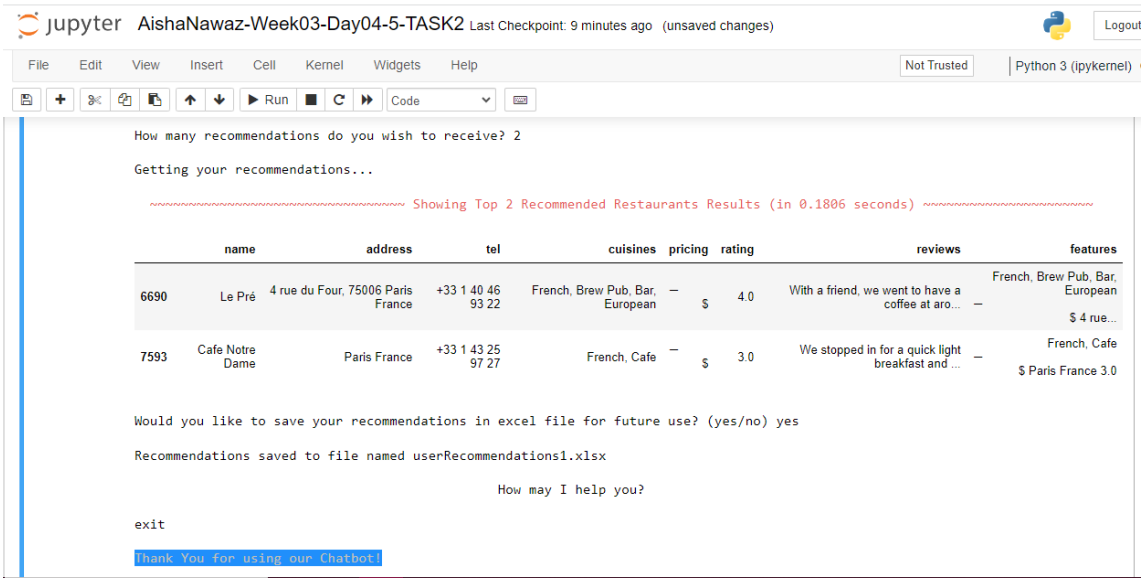




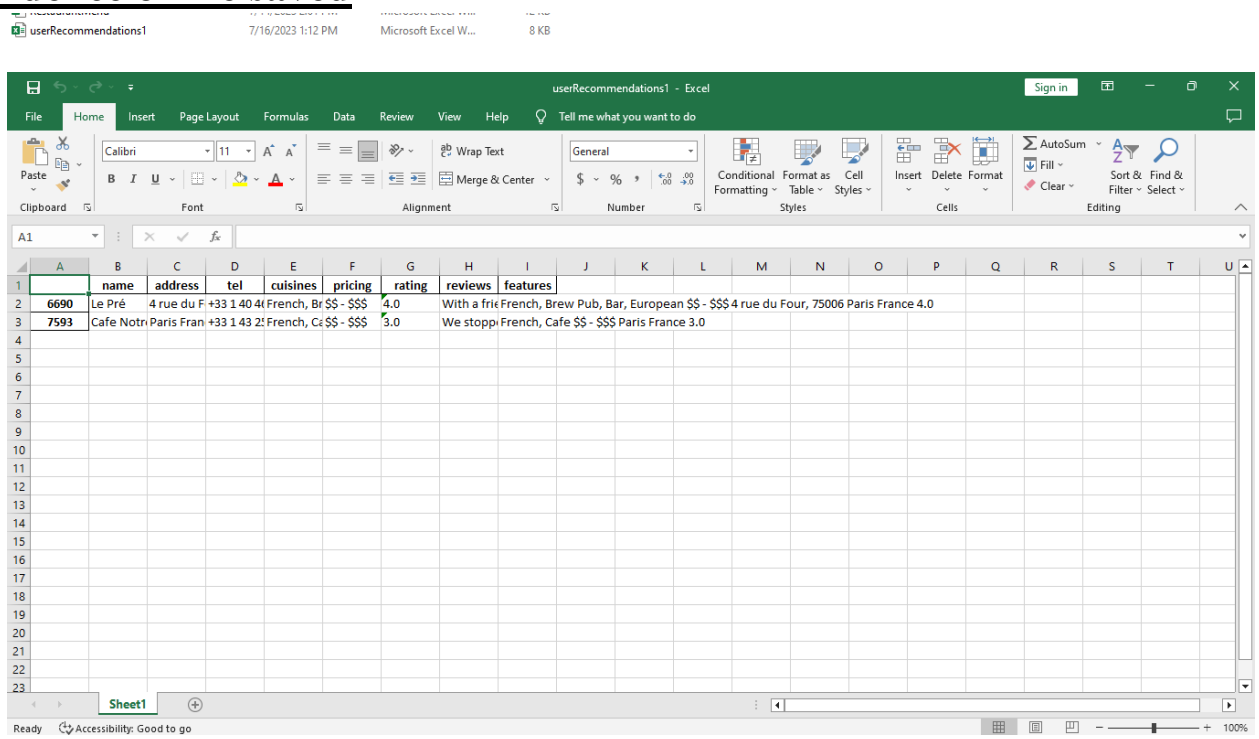
	name	address	tel	cuisines	pricing	rating	reviews	features
6690	Le Pré	4 rue du Four, 75006 Paris France	+33 1 40 46 93 22	French, Brew Pub, Bar, European	— $	4.0	With a friend, we went to have a coffee at aro... —	French, Brew Pub, Bar, European $ 4 rue...
7593	Cafe Notre Dame	Paris France	+33 1 43 25 97 27	French, Cafe	— $	3.0	We stopped in for a quick light breakfast and ... —	French, Cafe $ Paris France 3.0

b)Imporper statement by user

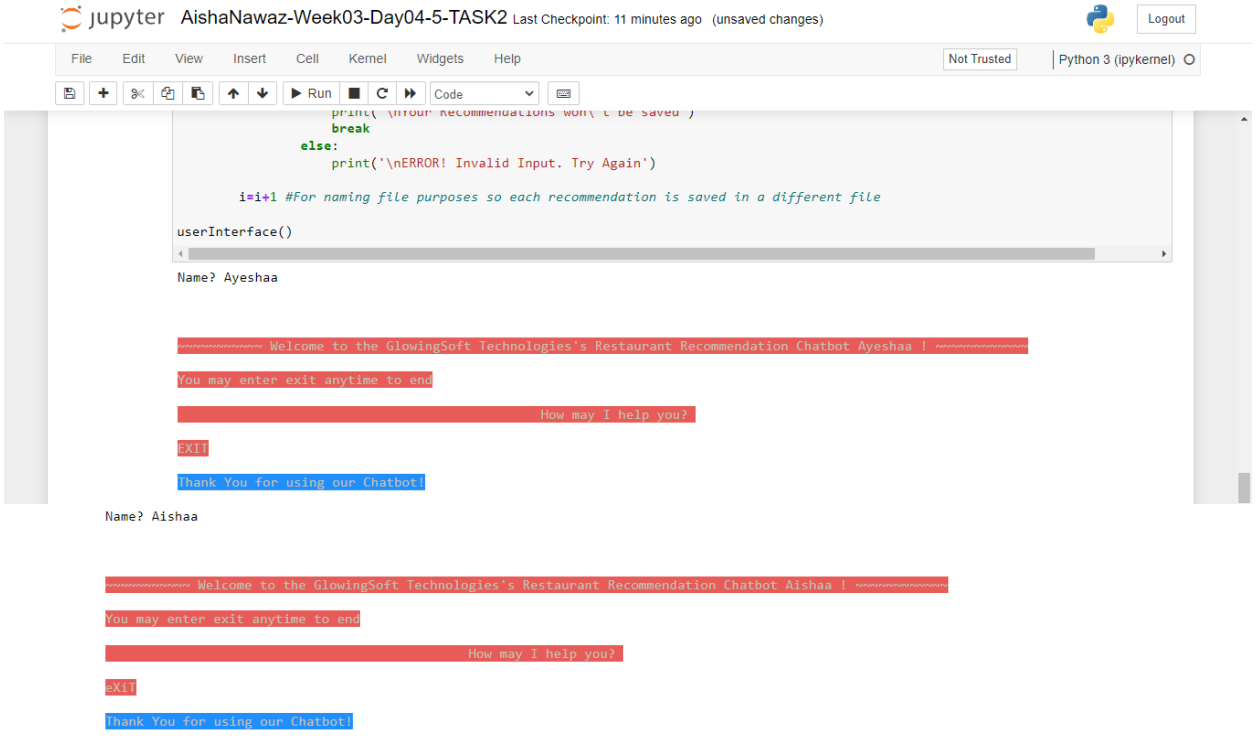




3) Evidence of file saved



4) Exit Button testing



AISHA NAWAZ – REMOTE INTERNSHIP DATASCIENCE – WEEK03- DAY4,5-TASK2