***Readme :-***

**1. There are two models** :-

(i) Semantic Similarity Model

(ii) Sequence to Sequence Model

**2. About Dataset** :-

Dataset consists of frequently asked questions (FAQs) from official websites like [WHO](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/coronavirus-disease-covid-19), [kaggle](https://www.kaggle.com/xhlulu/covidqa) and [github](https://github.com/deepset-ai/COVID-QA/tree/master/data) resources and I have merged all the data from these resources. ( Dataset file - “[**final\_faq.csv**](https://drive.google.com/drive/u/0/folders/17xtZHqOW1Zl4Gxfx5j9Jx-2RYKXoF6Bb)” )

**3. About Front-end :-**

Flask is used to connect the front end with the model. Both the models have the same front-end i.e, I have created a base “[**home.html**](https://drive.google.com/drive/u/0/folders/1yWaEN9lu6nLjqanMDjgD3gNe3dLMFt5o)” which is used by both the models. I have used **flask\_ngrok** library to use flask in google colab.

**(i) How to run Semantic Similarity Model :-**

Firstly, open the “**[Final\_Semantic\_Chatbot.ipynb](https://colab.research.google.com/drive/1TQtGGkHhz3gsKER6GFuNvHnPH8OqQvL2)**” file. Now,

to use this model, upload the “**final\_faq.csv**” dataset as well as the template - “**home.html**”. Now create a folder named as **templates** and put that “**home.html**” file in it. Now simply run the model and our chatbot is ready to interact.

**(ii) How to run Sequence to Sequence Model :-**

I have trained the model using the file “[**Chatbot\_Topic3(Sequence to Sequence Model).ipynb**](https://colab.research.google.com/drive/1OKpo2GCIJR3spYJgTqyBVLWicA5x1jOg)” and after training I saved the model in the file named “[**model\_topic3.h5**](https://drive.google.com/drive/u/0/folders/1kGYLxJBhAl7jtaRQYHI-C_zoZhBQM_ac)” . Now to predict from this model and connect it to flask, I have created a separate file named “**[predict\_chatbot.ipynb](https://colab.research.google.com/drive/1dxRx-2jroOhcrEIrNvehHQVP0rtMWYTC)**”. Now to run this file, first upload the “**final\_faq.csv**” dataset as well the template - “**home.html**”. Now create a folder named as **templates** and put that “**home.html**” file in it.Now upload the saved model named “**model\_topic3.h5**” and simply run the file and our chatbot is ready.

* ***Testing of Chatbot :***

1. ***Semantic Similarity Model :-***

|  |  |
| --- | --- |
| ***Input to Chatbot*** | ***Output*** |
| **Most common symptoms of covid?** | **The most common symptoms of COVID-19 are fever, tiredness, and dry cough. Some patients may have aches and pains, nasal congestion, runny nose, sore throat or diarrhea. These symptoms are usually mild and begin gradually.**  **(Correct Prediction)** |
| **how corona is transmitted?** | **Coronaviruses are generally thought to be spread from person-to-person through respiratory droplets. Currently there is no evidence to support transmission of COVID-19 associated with food. Before preparing or eating food it is important to always wash your hands with soap and water for 20 seconds for general food safety. ……………………………………………………..**  **Correct Prediction)** |
| **is covid airborne?** | **The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or speaks. These droplets are too heavy to hang in the air. They quickly fall on floors or surfaces.**  **(Wrong Prediction)** |

1. ***Seq2Seq Model :-***

|  |  |
| --- | --- |
| ***Input to Chatbot*** | ***Output*** |
| **What is coronavirus?** | **of the large family of viruses which may cause illness in animals or …..**  **(Correct Prediction)** |
| **Why corona?** | **suggest of the virus that causes COVID-19 is transmitted through contact with droplets respiratory**  **Correct Prediction)** |
| **prevention of covid** | **suggest of the virus that causes COVID-19 is transmitted through contact and droplets**  **(Wrong Prediction)** |