CEP REPORT

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PROBLEM STATEMENT:

Description: Deployment of Model and automated testing using selenium

Machine learning deployment is the process of deploying a machine learning model in a live environment. The model can be deployed across a range of different environments and will often be integrated with apps through an API. Deployment is a key step in an organization gaining operational value from machine learning.
The four steps to machine learning deployment include:

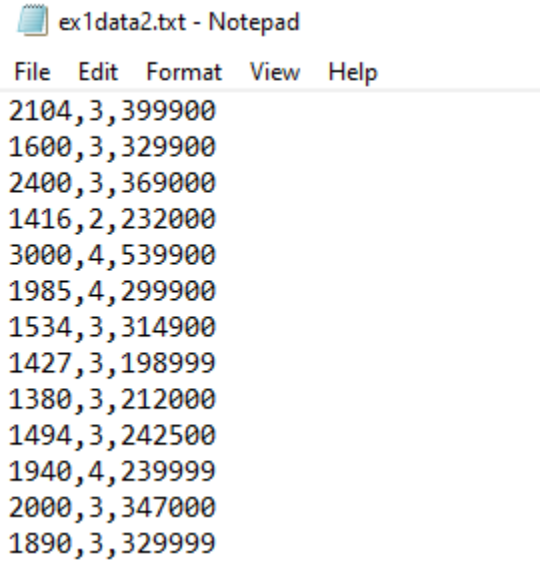
- Develop and create a model in a training environment.
- Test and clean the code ready for deployment.
- Prepare for container deployment.
- Plan for continuous monitoring and maintenance after machine learning deployment.

INTRODUCTION:

Considering the given statement, we have chosen to deploy a machine learning model **"HOUSE PRICE PREDICTIONS"**. The model that we used for this task is known as linear regression where we are given a set of inputs and based on those input, we have made a prediction of the house prices.

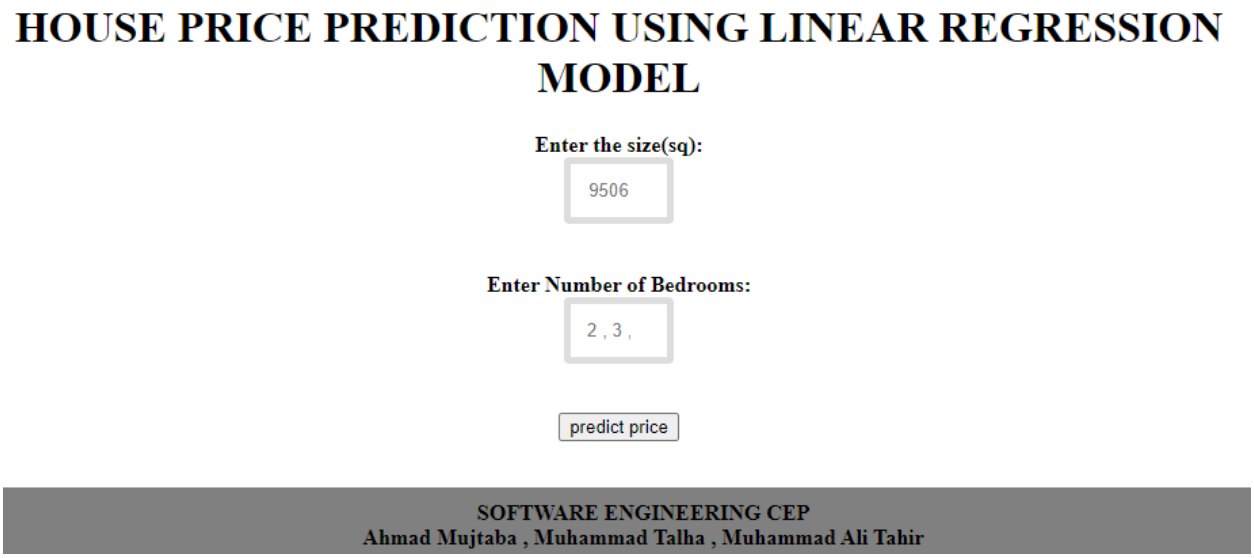
DISCUSSION:

The first task was to train the model and we have done that in Jupiter notebook with the following dataset.

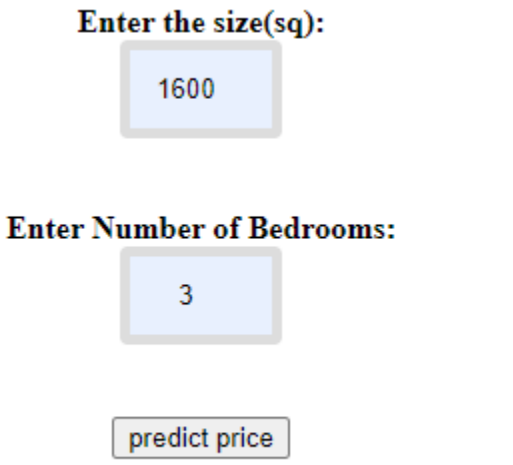


This dataset contains size of the house and bedroom number and the last column is the prices of the houses at which they are sold. We have trained the model using linear regression and saved it using pickle.

The next step was to create a GUI for the following inputs and outputs. We have used HTML and CSS for that purpose and the GUI looks like this:



We are using flask for the rest of the deployment part and its running on localhost. Now let's look at one example:



Selenium Testing:

For the testing part we have created four different tests using selenium script. In these four parts we have checked the deployment using 4 different inputs to see how the web app reacts. The values for the test are:

```
#############Test 1 ####################
#give credentials
size = "1650"
bedroom = "3"
```

```
################Test 2 ############################
size = "A"
bedroom = "A"
```

```
################Test 3 ############################
size = ""
bedroom = ""
```

```
################Test 4 ############################
size = "1500"
bedroom = "2"
```

Once running the script all these test run themselves and check the web app automatically.

CONCLUSION:

So in this project we have successfully deployed a machine learning model using Flask API and also we have tested that app using selenium which is a testing platform.