Data Glacier

DATA SCIENCE INTERNSHIP AT DATA GLACIER

Week 4 : Deployment on Flask

Name : Anuj Singh

Batch Code : LISU19

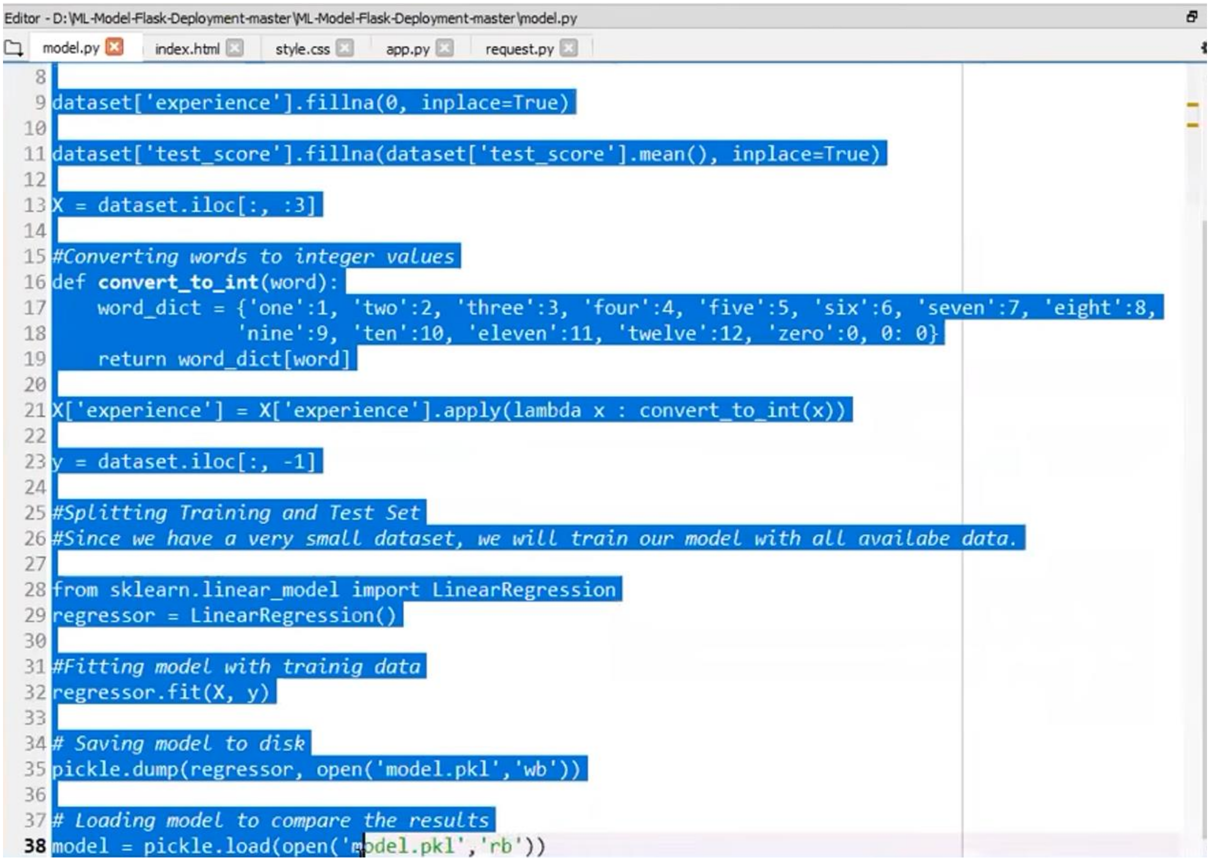
Date : 28th march 2023

Submitted to : Data Glacier

Introduction

1. In this project, we are going to deploying machine learning model (Salary Prediction) using the Flask Framework. As a demonstration, our model help to predict the Salary on the basis of Experience, Test Score, Interview Score.

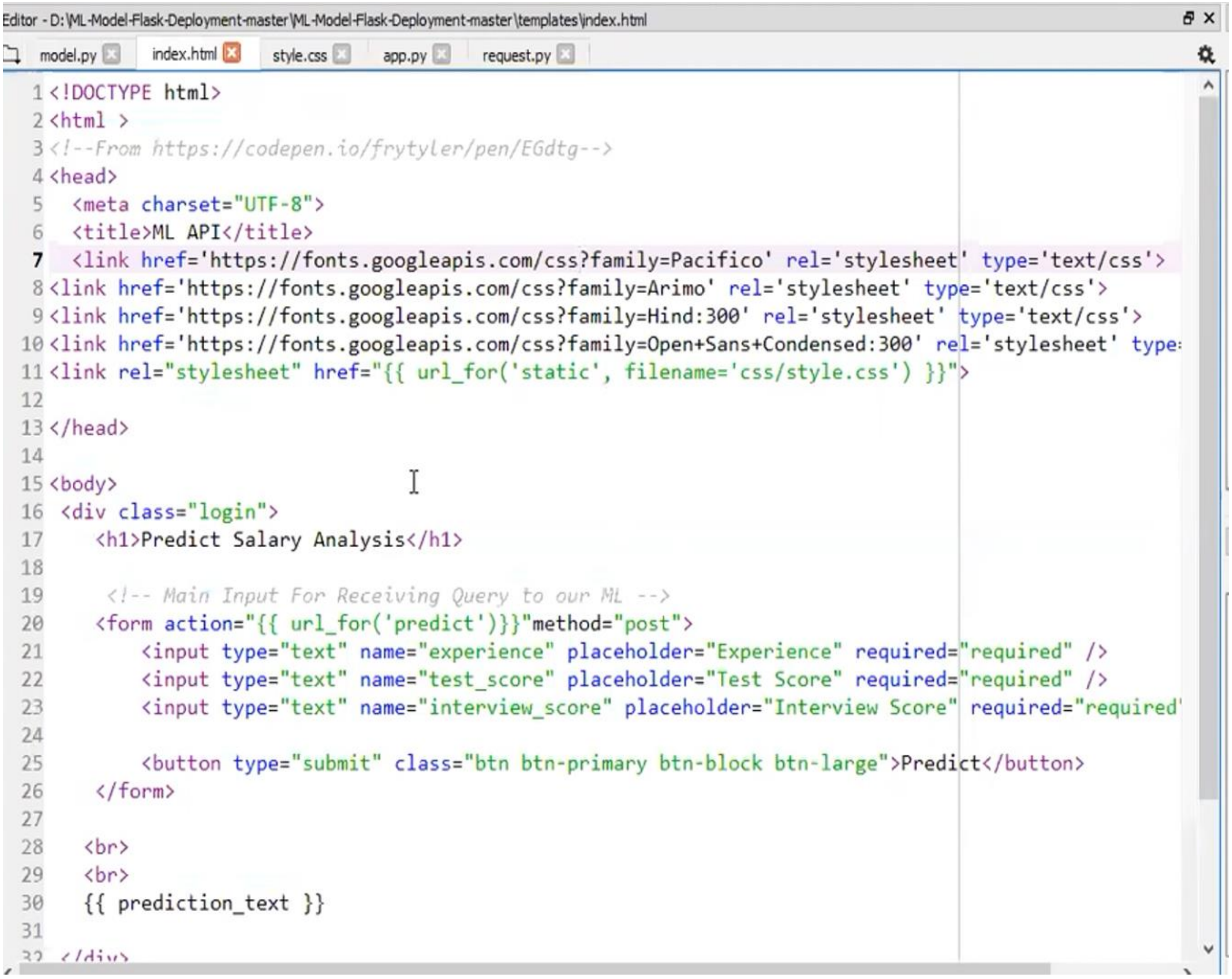
Machine Learning Model :



Editor - D:\ML-Model-Flask-Deployment-master\ML-Model-Flask-Deployment-master\model.py
model.py
index.html
style.css
app.py
request.py

```

dataset['experience'].fillna(0, inplace=True)

dataset['test_score'].fillna(dataset['test_score'].mean(), inplace=True)

X = dataset.iloc[:, :3]

#Converting words to integer values
def convert_to_int(word):
    word_dict = {'one':1, 'two':2, 'three':3, 'four':4, 'five':5, 'six':6, 'seven':7, 'eight':8,
                'nine':9, 'ten':10, 'eleven':11, 'twelve':12, 'zero':0, 0: 0}
    return word_dict[word]

X['experience'] = X['experience'].apply(lambda x : convert_to_int(x))

y = dataset.iloc[:, -1]

#Splitting Training and Test Set
#Since we have a very small dataset, we will train our model with all availabe data.

from sklearn.linear_model import LinearRegression
regressor = LinearRegression()

#Fitting model with trainig data
regressor.fit(X, y)

# Saving model to disk
pickle.dump(regressor, open('model.pkl','wb'))

# Loading model to compare the results
model = pickle.load(open('model.pkl','rb'))
```

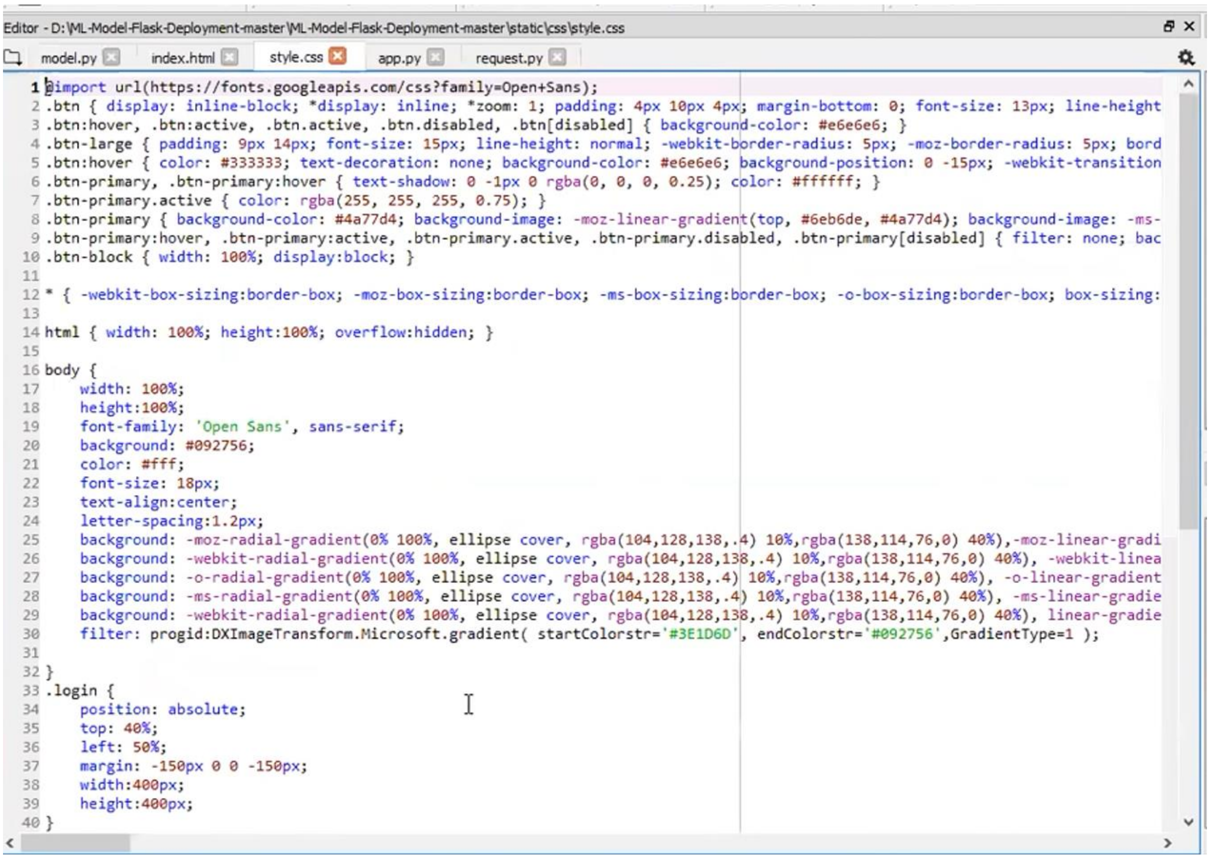
Index.html file



Editor - D:\ML-Model-Flask-Deployment-master\ML-Model-Flask-Deployment-master\templates\index.html
model.py
index.html
style.css
app.py
request.py

```html
<!DOCTYPE html>
<html >
<!--From https://codepen.io/frytyler/pen/EGdtg-->
<head>
  <meta charset="UTF-8">
  <title>ML API</title>
  <link href='https://fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='text/css'>
<link href='https://fonts.googleapis.com/css?family=Arimo' rel='stylesheet' type='text/css'>
<link href='https://fonts.googleapis.com/css?family=Hind:300' rel='stylesheet' type='text/css'>
<link href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300' rel='stylesheet' type=
<link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">

</head>

<body>
 <div class="login">
    <h1>Predict Salary Analysis</h1>

     <!-- Main Input For Receiving Query to our ML -->
    <form action="{{ url_for('predict')}}"method="post">
        <input type="text" name="experience" placeholder="Experience" required="required" />
        <input type="text" name="test_score" placeholder="Test Score" required="required" />
        <input type="text" name="interview_score" placeholder="Interview Score" required="required"

        <button type="submit" class="btn btn-primary btn-block btn-large">Predict</button>
    </form>

   <br>
   <br>
   {{ prediction_text }}

 </div>
```

App.py File :



Editor - D:\ML-Model-Flask-Deployment-master\ML-Model-Flask-Deployment-master\static\css\style.css
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index.html
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request.py

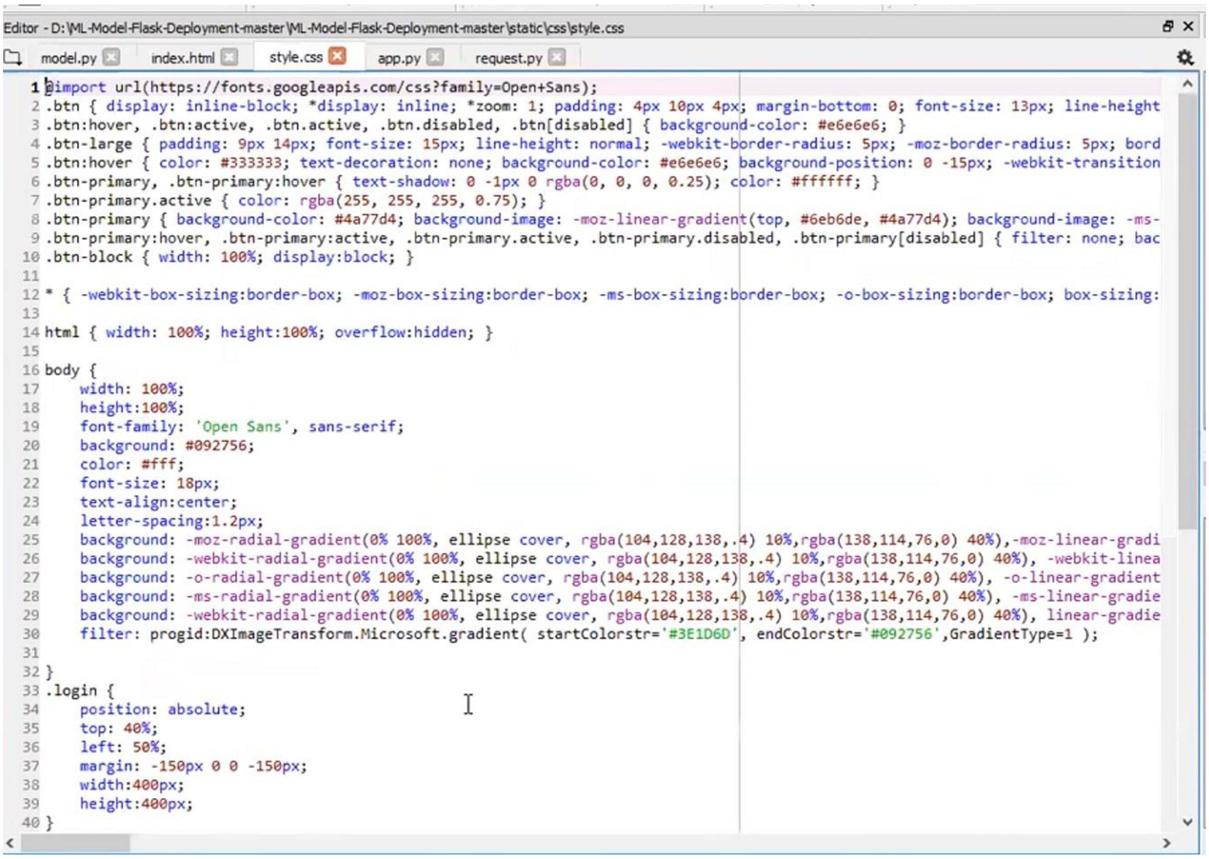
```css
@import url(https://fonts.googleapis.com/css?family=Open+Sans);
.btn { display: inline-block; *display: inline; *zoom: 1; padding: 4px 10px 4px; margin-bottom: 0; font-size: 13px; line-height
.btn:hover, .btn:active, .btn.active, .btn.disabled, .btn[disabled] { background-color: #e6e6e6; }
.btn-large { padding: 9px 14px; font-size: 15px; line-height: normal; -webkit-border-radius: 5px; -moz-border-radius: 5px; bord
.btn:hover { color: #333333; text-decoration: none; background-color: #e6e6e6; background-position: 0 -15px; -webkit-transition
.btn-primary, .btn-primary:hover { text-shadow: 0 -1px 0 rgba(0, 0, 0, 0.25); color: #ffffff; }
.btn-primary.active { color: rgba(255, 255, 255, 0.75); }
.btn-primary { background-color: #4a77d4; background-image: -moz-linear-gradient(top, #6eb6de, #4a77d4); background-image: -ms-
.btn-primary:hover, .btn-primary:active, .btn-primary.active, .btn-primary.disabled, .btn-primary[disabled] { filter: none; bac
.btn-block { width: 100%; display:block; }

* { -webkit-box-sizing:border-box; -moz-box-sizing:border-box; -ms-box-sizing:border-box; -o-box-sizing:border-box; box-sizing:

html { width: 100%; height:100%; overflow:hidden; }

body {
    width: 100%;
    height:100%;
    font-family: 'Open Sans', sans-serif;
    background: #092756;
    color: #fff;
    font-size: 18px;
    text-align:center;
    letter-spacing:1.2px;
    background: -moz-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%),-moz-linear-gradi
    background: -webkit-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%), -webkit-linea
    background: -o-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%), -o-linear-gradient
    background: -ms-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%), -ms-linear-gradie
    background: -webkit-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%), linear-gradie
    filter: progid:DXImageTransform.Microsoft.gradient( startColorstr='#3E1D6D', endColorstr='#092756',GradientType=1 );

}
.login {
    position: absolute;
    top: 40%;
    left: 50%;
    margin: -150px 0 0 -150px;
    width:400px;
    height:400px;
}
```



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    background: -o-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%), -o-linear-gradient
    background: -ms-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%), -ms-linear-gradie
    background: -webkit-radial-gradient(0% 100%, ellipse cover, rgba(104,128,138,.4) 10%,rgba(138,114,76,0) 40%), linear-gradie
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}
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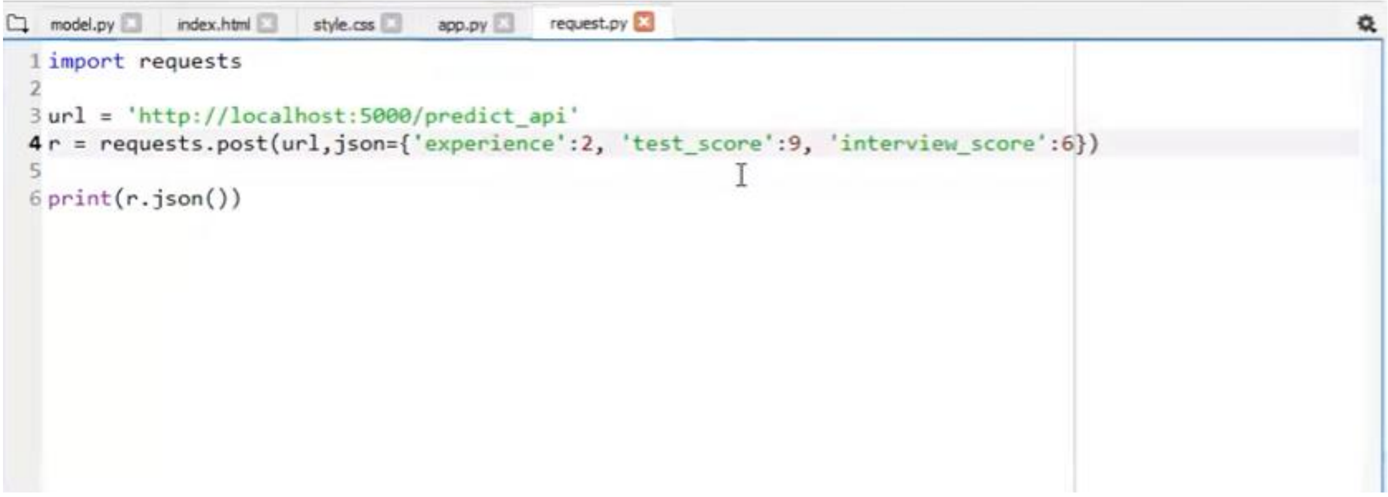
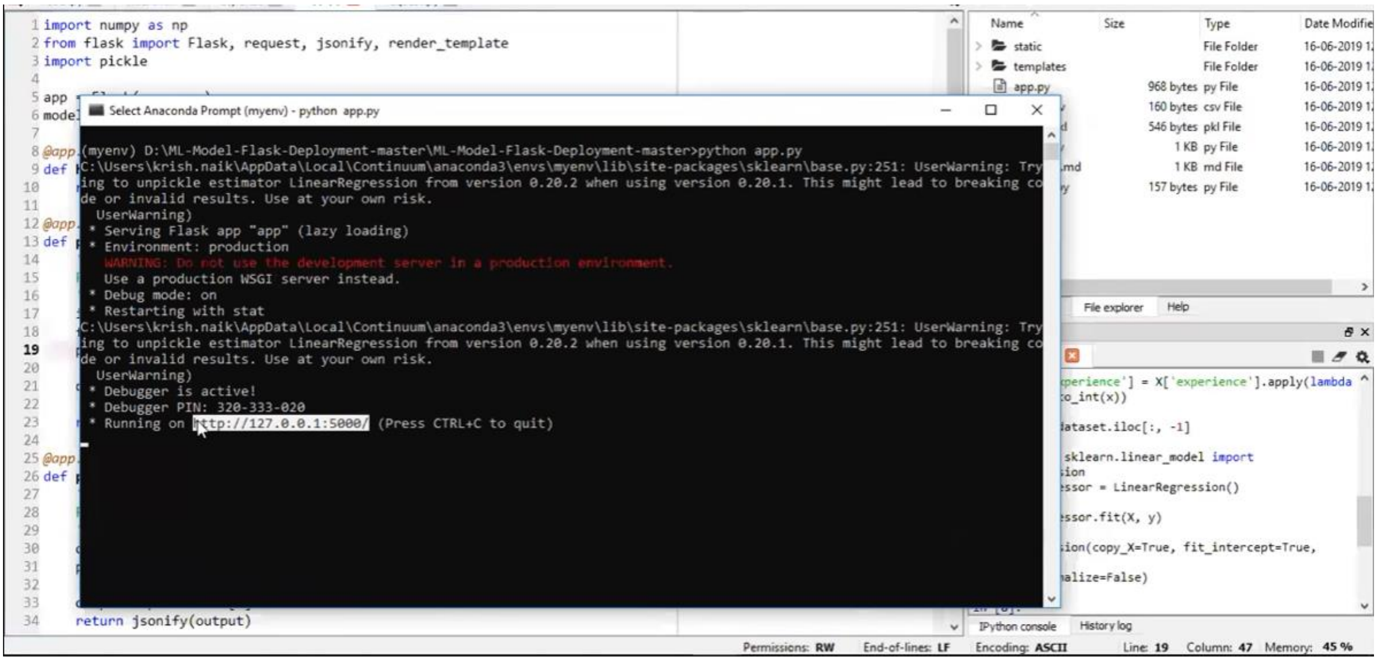


```python
import requests

url = 'http://localhost:5000/predict_api'
r = requests.post(url,json={'experience':2, 'test_score':9, 'interview_score':6})

print(r.json())
```



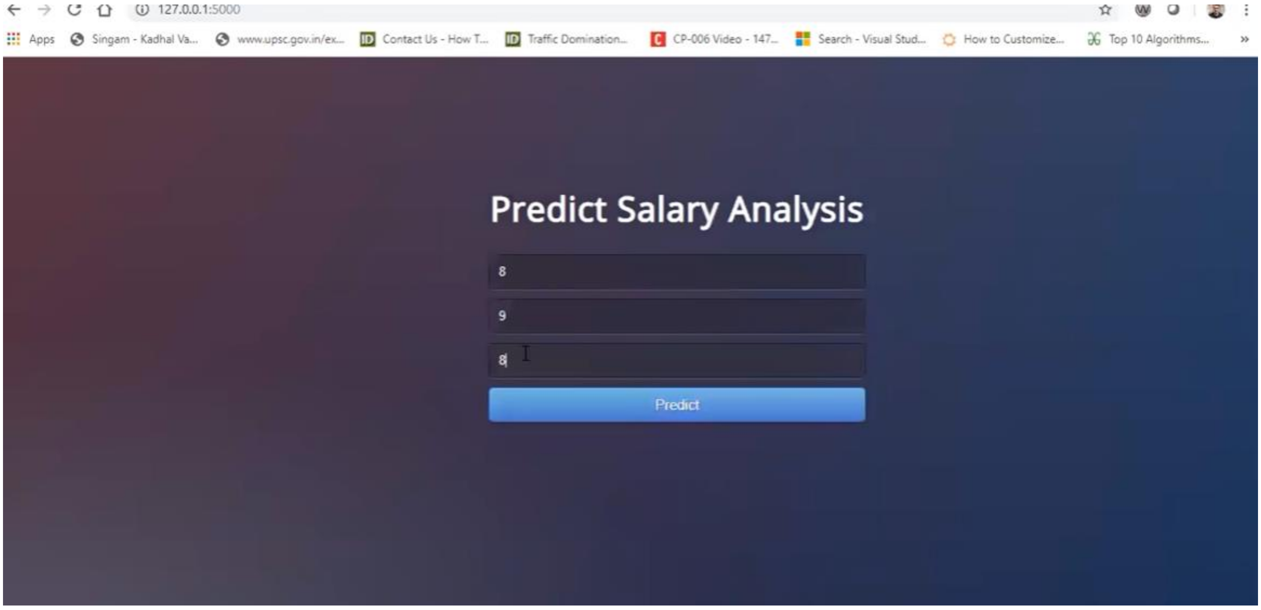
```python
import numpy as np
from flask import Flask, request, jsonify, render_template
import pickle
```

```python
    return jsonify(output)
```

```
(myenv) D:\ML-Model-Flask-Deployment-master\ML-Model-Flask-Deployment-master>python app.py
C:\Users\krish.naik\AppData\Local\Continuum\anaconda3\envs\myenv\lib\site-packages\sklearn\base.py:251: UserWarning: Try
ing to unpickle estimator LinearRegression from version 0.20.2 when using version 0.20.1. This might lead to breaking co
de or invalid results. Use at your own risk.
  UserWarning)
 * Serving Flask app "app" (lazy loading)
 * Environment: production
   WARNING: Do not use the development server in a production environment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Restarting with stat
C:\Users\krish.naik\AppData\Local\Continuum\anaconda3\envs\myenv\lib\site-packages\sklearn\base.py:251: UserWarning: Try
ing to unpickle estimator LinearRegression from version 0.20.2 when using version 0.20.1. This might lead to breaking co
de or invalid results. Use at your own risk.
  UserWarning)
 * Debugger is active!
 * Debugger PIN: 320-333-020
 * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

Name	Size	Type	Date Modifie
static		File Folder	16-06-2019 1
templates		File Folder	16-06-2019 1
app.py	968 bytes	py File	16-06-2019 1
	160 bytes	csv File	16-06-2019 1
	546 bytes	pkl File	16-06-2019 1
	1 KB	py File	16-06-2019 1
.md	1 KB	md File	16-06-2019 1
	157 bytes	py File	16-06-2019 1

```
perience'] = X['experience'].apply(lambda
o_int(x))

dataset.iloc[:, -1]

 sklearn.linear_model import
ion
ssor = LinearRegression()

ssor.fit(X, y)

ion(copy_X=True, fit_intercept=True,

alize=False)
```

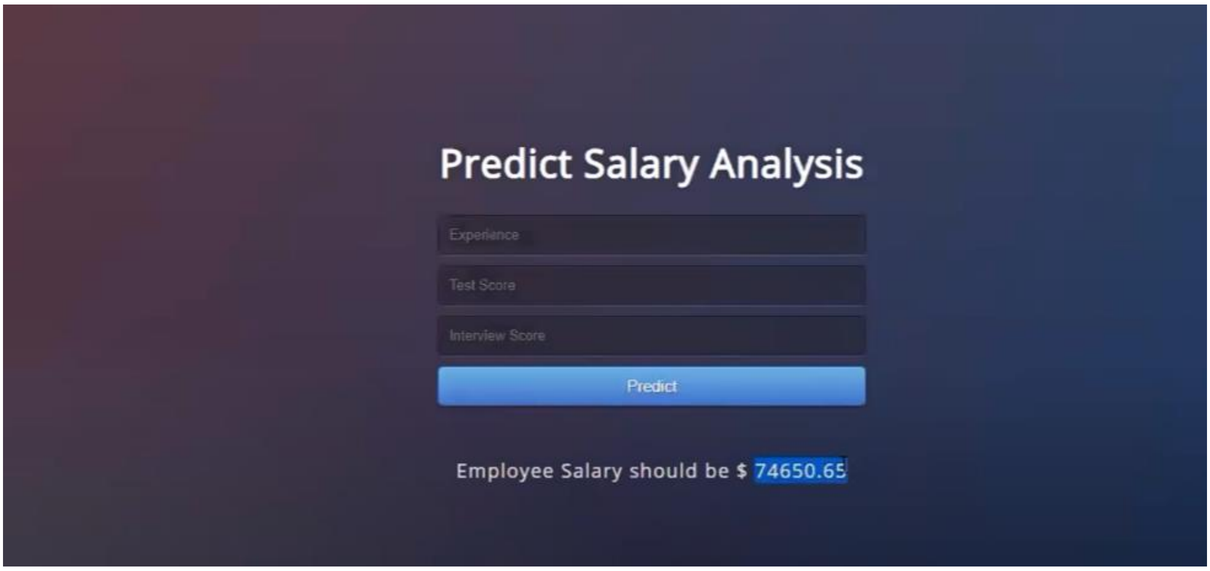


Predict Salary Analysis

8

9

8



Predict Salary Analysis

Employee Salary should be $ 74650.65