Week 3: Deployment on Flask

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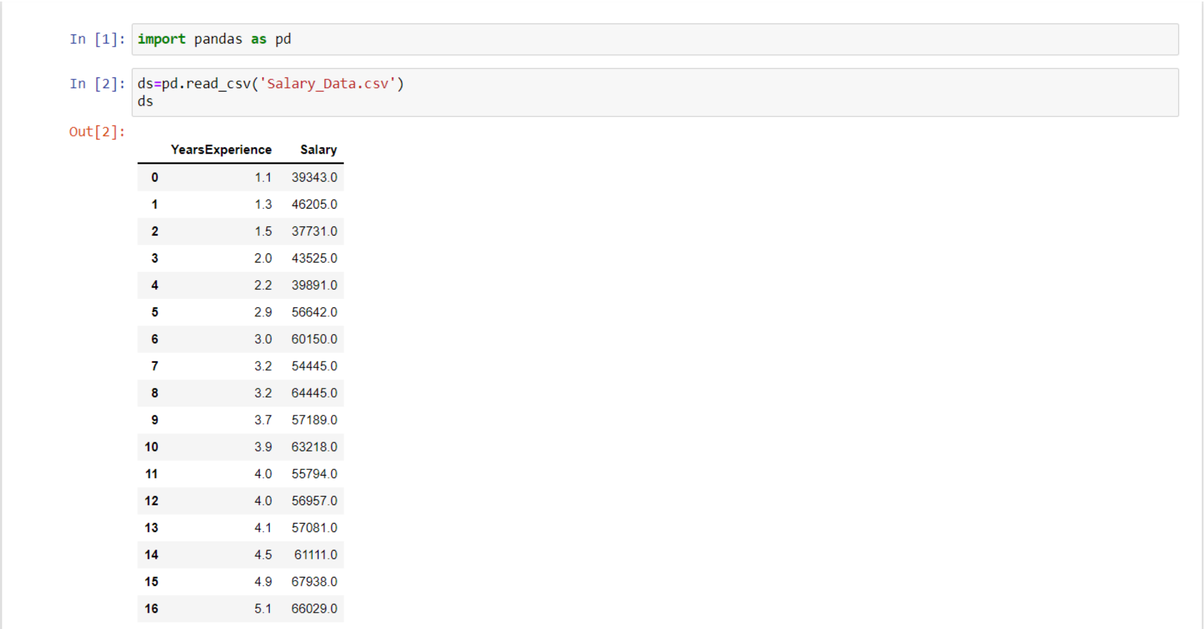
Submitted to: Data Glaciers

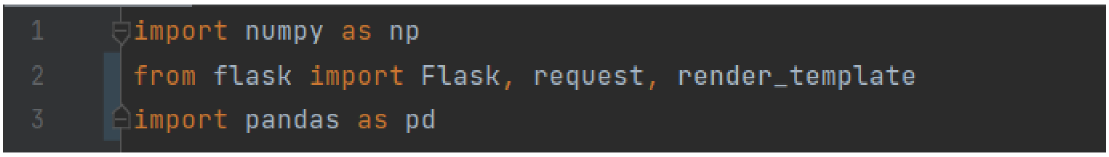
Step 1: Collect a Dataset (simple Data) i.e., Kaggle. In my Case, I have Collected Salary Dataset for predicting the Salary based on Number of Years of Experience (Linear Regression Model).



```
In [1]: import pandas as pd

In [2]: ds=pd.read_csv('Salary_Data.csv')
        ds

Out[2]:
```

	YearsExperience	Salary
0	1.1	39343.0
1	1.3	46205.0
2	1.5	37731.0
3	2.0	43525.0
4	2.2	39891.0
5	2.9	56642.0
6	3.0	60150.0
7	3.2	54445.0
8	3.2	64445.0
9	3.7	57189.0
10	3.9	63218.0
11	4.0	55794.0
12	4.0	56957.0
13	4.1	57081.0
14	4.5	61111.0
15	4.9	67938.0
16	5.1	66029.0

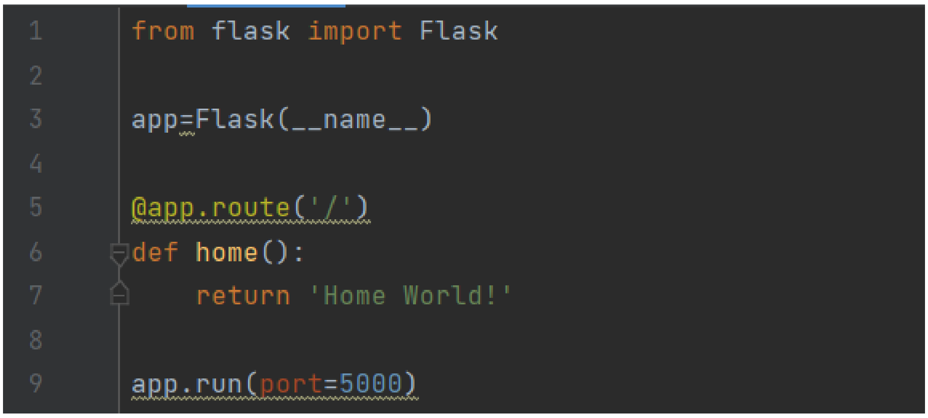
Step 2: Import the Data Using Suitable Libraries for the analysis (preferably pandas, in this case is Flask, Requests and Numpy).



```
import numpy as np
from flask import Flask, request, render_template
import pandas as pd
```

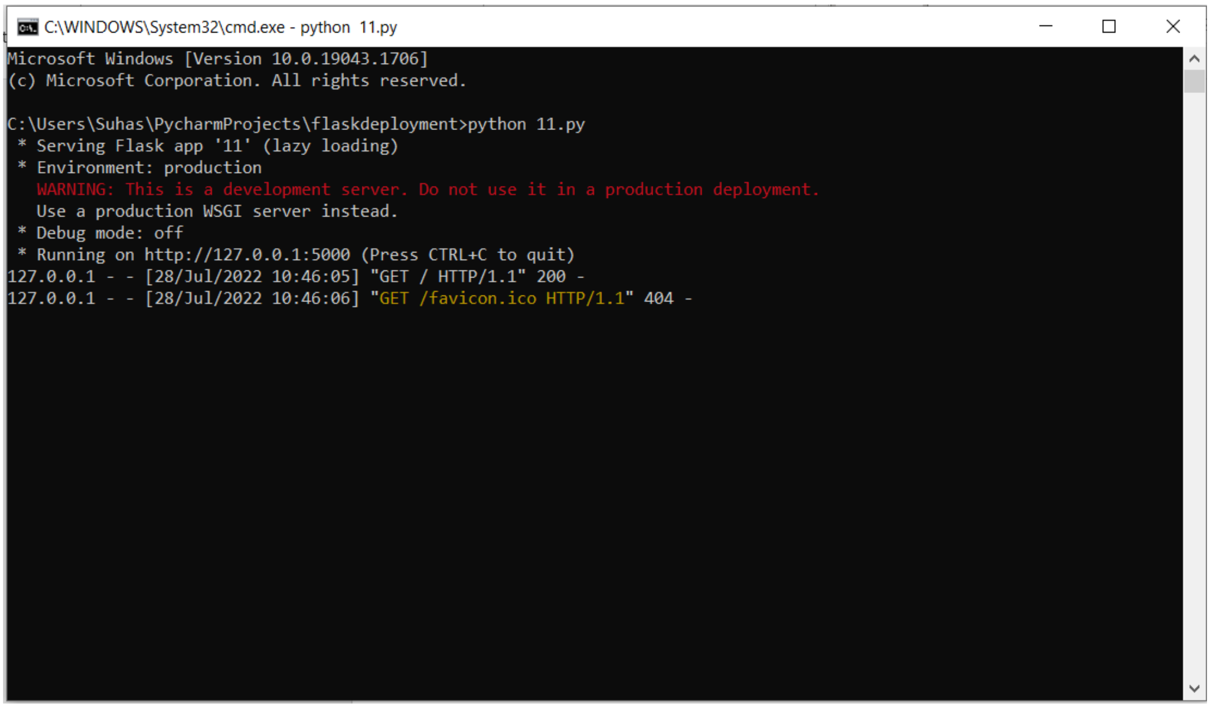
Step 3: Write a basic Code to see if the Flask and the required Libraires are Installed Properly.

1.Write the Code



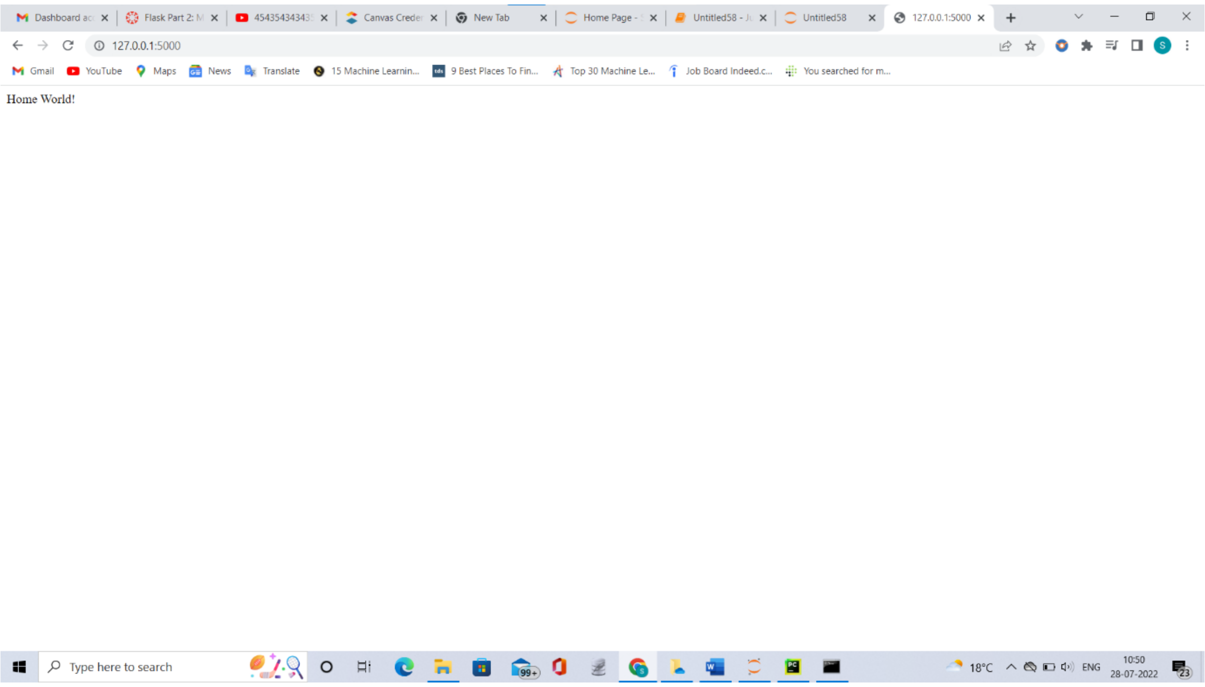
```python
from flask import Flask

app=Flask(__name__)

@app.route('/')
def home():
    return 'Home World!'

app.run(port=5000)
```

2.Run the Code Using Command Prompt or Terminal.



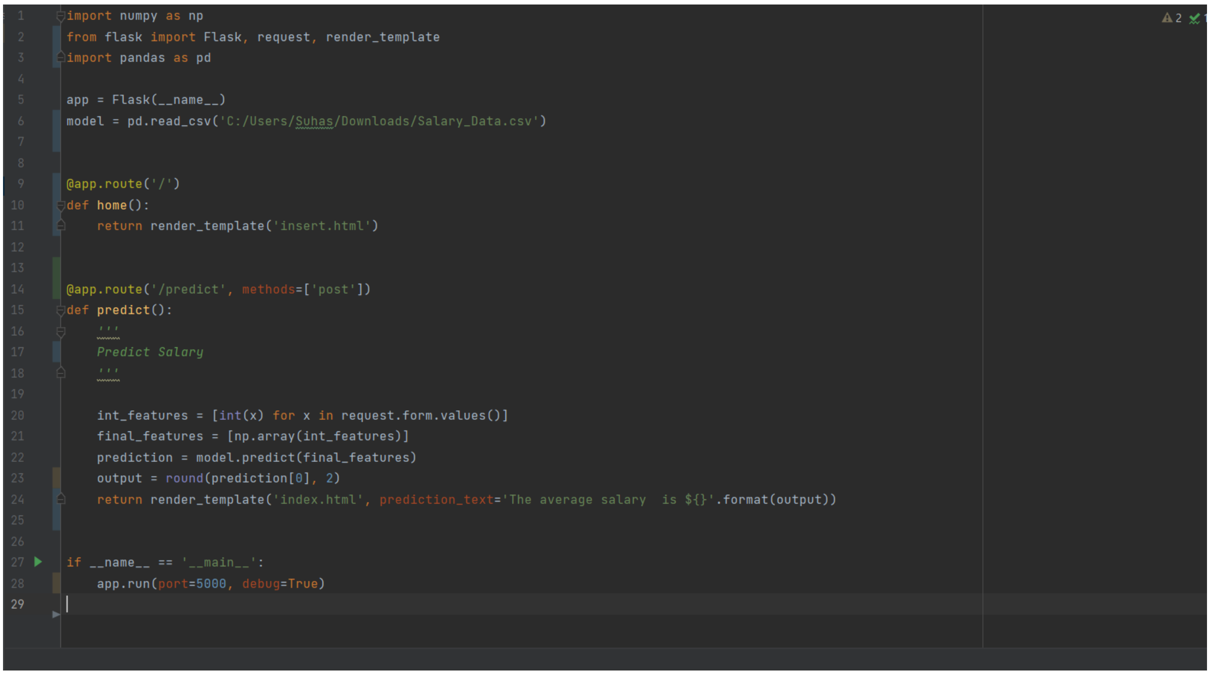
```
Microsoft Windows [Version 10.0.19043.1706]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Suhas\PycharmProjects\flaskdeployment>python 11.py
 * Serving Flask app '11' (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: off
 * Running on http://127.0.0.1:5000 (Press CTRL+C to quit)
127.0.0.1 - - [28/Jul/2022 10:46:05] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [28/Jul/2022 10:46:06] "GET /favicon.ico HTTP/1.1" 404 -
```

3.Output



```
Home World!
```

Step 4: Well, the Code is Correct and seems to be working Fine. Now write Code to Load the Data and the required Libraries should be installed.



```python
import numpy as np
from flask import Flask, request, render_template
import pandas as pd

app = Flask(__name__)
model = pd.read_csv('C:/Users/Suhas/Downloads/Salary_Data.csv')

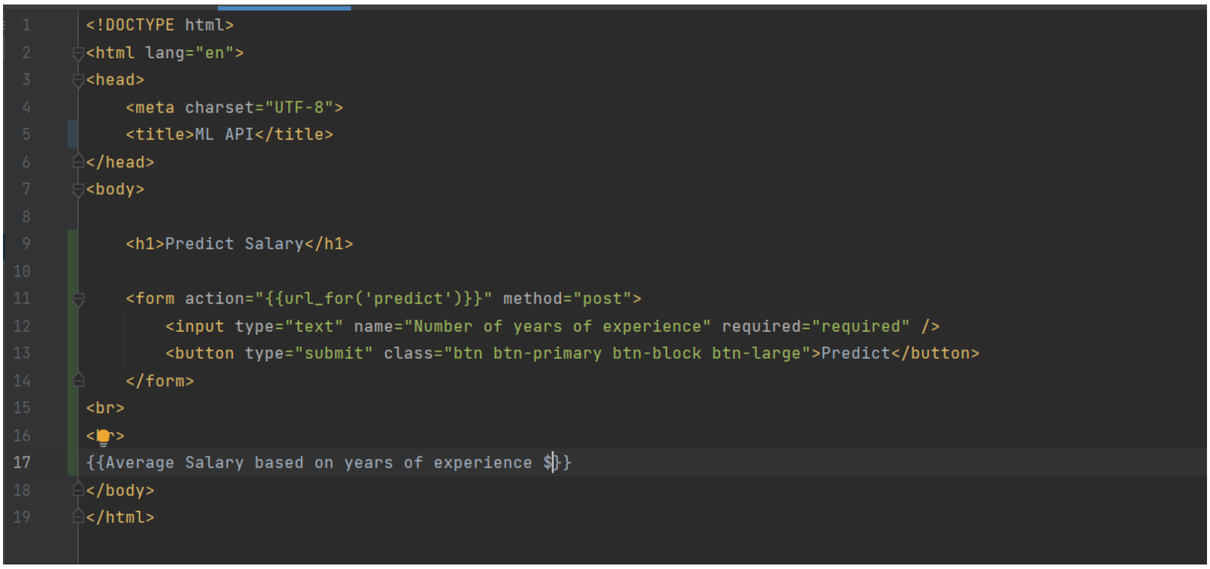

@app.route('/')
def home():
    return render_template('insert.html')


@app.route('/predict', methods=['post'])
def predict():
    '''
    Predict Salary
    '''

    int_features = [int(x) for x in request.form.values()]
    final_features = [np.array(int_features)]
    prediction = model.predict(final_features)
    output = round(prediction[0], 2)
    return render_template('index.html', prediction_text='The average salary  is ${}'.format(output))


if __name__ == '__main__':
    app.run(port=5000, debug=True)
```

Step 5: Write a HTML Code or the pre-written Code given in Instruction Videos (which has been Modified based on the Requirements)

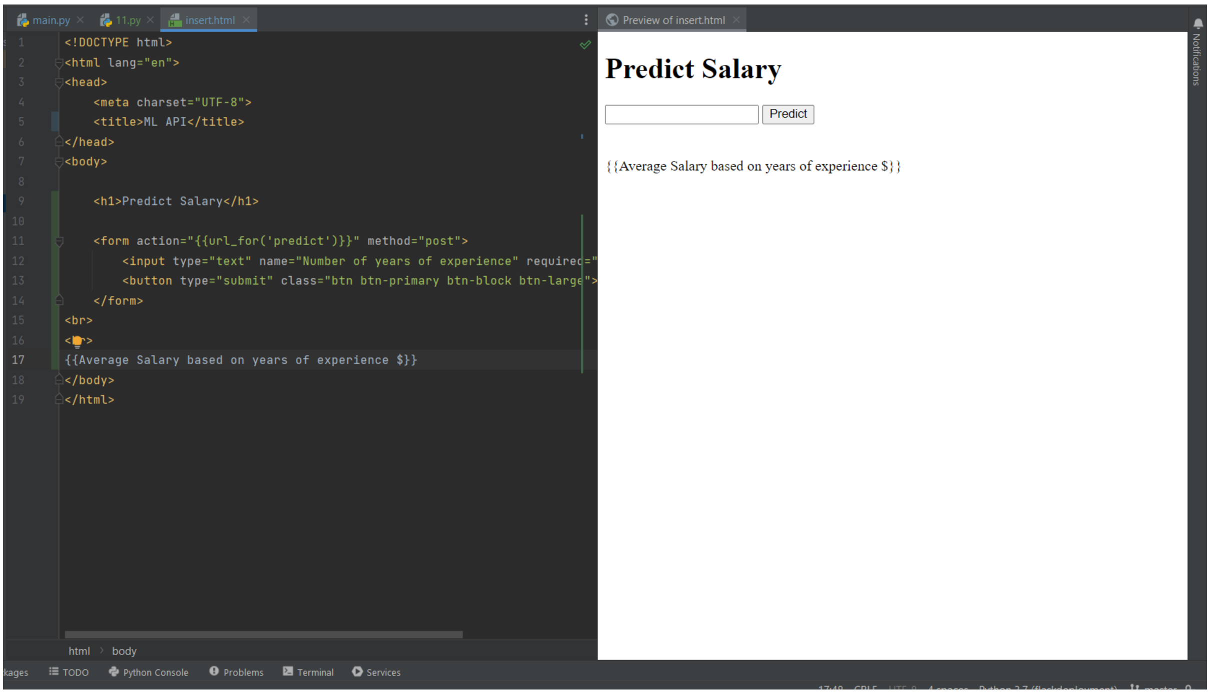


```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>ML API</title>
</head>
<body>

    <h1>Predict Salary</h1>

    <form action="{{url_for('predict')}}" method="post">
        <input type="text" name="Number of years of experience" required="required" />
        <button type="submit" class="btn btn-primary btn-block btn-large">Predict</button>
    </form>
<br>
<br>
{{Average Salary based on years of experience $}}
</body>
</html>
```

Step 6: Note (No Stylers were used here as the requirements were simple), Now run the Python Code to see the output.



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    </form>
<br>
<br>
{{Average Salary based on years of experience $}}
</body>
</html>
```

Predict Salary

[ ] Predict

{{Average Salary based on years of experience $}}