

DAILY ASSESSMENT FORMAT

Date:	06-06-2020	Name:	Kishan shetty
Course:	Python programming	USN:	4AL17EC041
Topic:	Application 10: Project exercise on building a geocoder web services.	Semester & Section:	6 SEM A - SEC
Github Repository:	Kishanshetty-041		

FORENOON SESSION DETAILS

```

1 from flask import Flask, render_template, request, send_file
2 from geopy.geocoders import ArcGIS
3 import pandas
4 import datetime
5
6 app = Flask(__name__)
7
8 @app.route("/")
9 def index():
10     return render_template("index.html")
11
12 @app.route('/success-table', methods=['POST'])
13 def success_table():
14     global filename
15     if request.method == "POST":
16         file = request.files['file_name']
17         try:
18             df = pandas.read_csv(file)
19             gc = ArcGIS(scheme="http")
20             df['coordinates'] = df['Address'].apply(lambda x: gc.geocode(x))
21             df['latitude'] = df['coordinates'].apply(lambda x: x.latitude if x != None else "No Details")
22             df['longitude'] = df['coordinates'].apply(lambda x: x.longitude if x != None else "No Details")
23             df = df.drop('coordinates', 1)
24             filename = datetime.datetime.now().strftime("sample_files/XY-3n-5d-3d-3d-3d-3d.csv")
25             df.to_csv(filename, index=None)
26             return render_template("index.html", text=df.to_html(), btn='download.html')

```

REPORT:

Application 10: Project Exercise on Building a Geocoder Web Service

- The web application allows the user to upload a csv file containing address of different locations and the application processes the data using geopy library and produces the downloadable file containing latitude and longitude positions of the given address.
- For uploading and downloading of files pandas and flask library is used and for web page flask library is used.
- geopy is a Python 2 and 3 clients for several popular geocoding web services.
- geopy makes it easy for Python developers to locate the coordinates of addresses, cities, countries, and landmarks across the globe using third-party geocoders and other data sources.

- geopy includes geocoder classes for the OpenStreetMap Nominatim, Google Geocoding API (V3), and many other geocoding services. The full list is available on the Geocoders doc section. Geocoder classes are located in `geopy.geocoders`.
- The ArcGIS API for Python is a powerful, modern and easy to use Pythonic library to perform GIS visualization and analysis, spatial data management and GIS system administration tasks that can run both in an interactive fashion, as well as using scripts.
- It enables power users, system administrators and developers to leverage the rich SciPy ecosystem for automating their workflows and performing repetitive tasks using scripts. It integrates well with the Jupyter Notebook and enables academics, data scientists, GIS analysts and visualization enthusiasts to share geo-enriched literate programs and reproducible research with others.
- Flask is a lightweight WSGI web application framework. It is designed to make getting started quick and easy, with the ability to scale up to complex applications. It began as a simple wrapper around Werkzeug and Jinja and has become one of the most popular Python web application frameworks.
- The `send_file ()` function under flask library sends the contents of a file to the client. This will use the most efficient method available and configured.

