------------------->>>>>>>>>>>>>>>>>>>app.py

from flask import Flask, render\_template, request

import pandas as pd

import numpy as np

from flask\_table import Table, Col

#building flask table for showing recommendation results

class Results(Table):

id = Col('Id', show=False)

title = Col('Recommendation List')

app = Flask(\_\_name\_\_)

#Welcome Page

@app.route("/")

def welcome():

return render\_template('welcome.html')

#Rating Page

@app.route("/rating", methods=["GET", "POST"])

def rating():

if request.method=="POST":

return render\_template('recommendation.html')

return render\_template('rating.html')

#Results Page

@app.route("/recommendation", methods=["GET", "POST"])

def recommendation():

if request.method == 'POST':

#reading the original dataset

movies = pd.read\_csv('movies.csv')

#separating genres for each movie

movies = pd.concat([movies, movies.genres.str.get\_dummies(sep='|')], axis=1)

#dropping variables to have a dummy 1-0 matrix of movies and their genres

## IMAX is not a genre, it is a specific method of filming a movie, thus removed

###we do not need movieId for this project

categories = movies.drop(['title', 'genres', 'IMAX', 'movieId'], axis=1)

#initializing user preference list which will contain user ratings

preferences = []

#reading rating values given by user in the front-end

Action = request.form.get('Action')

Adventure = request.form.get('Adventure')

Animation = request.form.get('Animation')

Children = request.form.get('Children')

Comedy = request.form.get('Comedy')

Crime = request.form.get('Crime')

Documentary = request.form.get('Documentary')

Drama = request.form.get('Drama')

Fantasy = request.form.get('Fantasy')

FilmNoir = request.form.get('FilmNoir')

Horror = request.form.get('Horror')

Musical = request.form.get('Musical')

Mystery = request.form.get('Mystery')

Romance = request.form.get('Romance')

SciFi = request.form.get('SciFi')

Thriller = request.form.get('Thriller')

War = request.form.get('War')

Western = request.form.get('Western')

#inserting each rating in a specific position based on the movie-genre matrix

preferences.insert(0, int(Action))

preferences.insert(1,int(Adventure))

preferences.insert(2,int(Animation))

preferences.insert(3,int(Children))

preferences.insert(4,int(Comedy))

preferences.insert(5,int(Crime))

preferences.insert(6,int(Documentary))

preferences.insert(7,int(Drama))

preferences.insert(8,int(Fantasy))

preferences.insert(9,int(FilmNoir))

preferences.insert(10,int(Horror))

preferences.insert(11,int(Musical))

preferences.insert(12,int(Mystery))

preferences.insert(13,int(Romance))

preferences.insert(14,int(SciFi))

preferences.insert(15,int(War))

preferences.insert(16,int(Thriller))

preferences.insert(17,int(Western))

#This funtion will get each movie score based on user's ratings through dot product

def get\_score(a, b):

return np.dot(a, b)

#Generating recommendations based on top score movies

def recommendations(X, n\_recommendations):

movies['score'] = get\_score(categories, preferences)

return movies.sort\_values(by=['score'], ascending=False)['title'][:n\_recommendations]

#printing top-20 recommendations

output= recommendations(preferences, 20)

table = Results(output)

table.border = True

return render\_template('recommendation.html', table=table)

if \_\_name\_\_ == '\_\_main\_\_':

app.run(debug = True)

------------------->>>>>>>>>>>>>>>>>>>rating.html

<!DOCTYPE html>

<head>

<html lang="en" dir="ltr">

<meta charset="utf-8">

<title>Rating</title>

<style type="text/css">

body

{

border: 2px solid black;

padding: 25px;

background: url("http://www.baltana.com/files/wallpapers-5/Light-Background-Wallpaper-16379.jpeg");

background-repeat: repeat;

background-size: 2000px 2000px; }

</style>

</head>

<body>

{% extends "template.html" %}

{% block content %}

<h1>Please rate each genre based on your preference </h1>

<form action="{{ url\_for('recommendation') }}" method="POST">

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Action </font>genre?</strong><br/>Example: Die Hard</p>

<input type="radio" name="Action" value="0" checked>I hate this genre!<br>

<input type="radio" name="Action" value="1" > 1<br>

<input type="radio" name="Action" value="2"> 2<br>

<input type="radio" name="Action" value="3"> 3<br>

<input type="radio" name="Action" value="4"> 4<br>

<input type="radio" name="Action" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Adventure </font>genre?</strong><br/>Example: Mission: Impossible</p>

<input type="radio" name="Adventure" value="0" checked>I hate this genre!<br>

<input type="radio" name="Adventure" value="1" > 1<br>

<input type="radio" name="Adventure" value="2"> 2<br>

<input type="radio" name="Adventure" value="3"> 3<br>

<input type="radio" name="Adventure" value="4"> 4<br>

<input type="radio" name="Adventure" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Animation </font>genre?</strong><br/>Example: Toy Story </p>

<input type="radio" name="Animation" value="0" checked>I hate this genre!<br>

<input type="radio" name="Animation" value="1" > 1<br>

<input type="radio" name="Animation" value="2"> 2<br>

<input type="radio" name="Animation" value="3"> 3<br>

<input type="radio" name="Animation" value="4"> 4<br>

<input type="radio" name="Animation" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Children's </font>genre?</strong><br/>Example: Alice in Wonderland </p>

<input type="radio" name="Children" value="0" checked>I hate this genre!<br>

<input type="radio" name="Children" value="1" > 1<br>

<input type="radio" name="Children" value="2"> 2<br>

<input type="radio" name="Children" value="3"> 3<br>

<input type="radio" name="Children" value="4"> 4<br>

<input type="radio" name="Children" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Comedy </font>genre?</strong><br/>Example: Dumb and Dumber </p>

<input type="radio" name="Comedy" value="0" checked>I hate this genre!<br>

<input type="radio" name="Comedy" value="1" > 1<br>

<input type="radio" name="Comedy" value="2"> 2<br>

<input type="radio" name="Comedy" value="3"> 3<br>

<input type="radio" name="Comedy" value="4"> 4<br>

<input type="radio" name="Comedy" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Crime </font>genre?</strong><br/>Example: Goodfellas </p>

<input type="radio" name="Crime" value="0" checked>I hate this genre!<br>

<input type="radio" name="Crime" value="1" > 1<br>

<input type="radio" name="Crime" value="2"> 2<br>

<input type="radio" name="Crime" value="3"> 3<br>

<input type="radio" name="Crime" value="4"> 4<br>

<input type="radio" name="Crime" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Documentary </font>genre?</strong><br/>Example: The Decline of Western Civilizations </p>

<input type="radio" name="Documentary" value="0" checked>I hate this genre!<br>

<input type="radio" name="Documentary" value="1" > 1<br>

<input type="radio" name="Documentary" value="2"> 2<br>

<input type="radio" name="Documentary" value="3"> 3<br>

<input type="radio" name="Documentary" value="4"> 4<br>

<input type="radio" name="Documentary" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Drama </font>genre?</strong><br/>Example: The Godfather </p>

<input type="radio" name="Drama" value="0" checked>I hate this genre!<br>

<input type="radio" name="Drama" value="1" > 1<br>

<input type="radio" name="Drama" value="2"> 2<br>

<input type="radio" name="Drama" value="3"> 3<br>

<input type="radio" name="Drama" value="4"> 4<br>

<input type="radio" name="Drama" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Fantasy </font>genre?</strong><br/>Example: Harry Potter </p>

<input type="radio" name="Fantasy" value="0" checked>I hate this genre!<br>

<input type="radio" name="Fantasy" value="1" > 1<br>

<input type="radio" name="Fantasy" value="2"> 2<br>

<input type="radio" name="Fantasy" value="3"> 3<br>

<input type="radio" name="Fantasy" value="4"> 4<br>

<input type="radio" name="Fantasy" value="5"> 5

</div>

<div>

<p><strong><font size="4" color="black"> What is your rating to <font color="Maroon">Film-Noir </font>genre?</strong><br/>Example: The Big Sleep </p>

<input type="radio" name="FilmNoir" value="0" checked>I hate this genre!<br>

<input type="radio" name="FilmNoir" value="1" > 1<br>

<input type="radio" name="FilmNoir" value="2"> 2<br>

<input type="radio" name="FilmNoir" value="3"> 3<br>

<input type="radio" name="FilmNoir" value="4"> 4<br>

<input type="radio" name="FilmNoir" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Horror </font>genre?</strong><br/>Example: The Shining </p>

<input type="radio" name="Horror" value="0" checked>I hate this genre!<br>

<input type="radio" name="Horror" value="1" > 1<br>

<input type="radio" name="Horror" value="2"> 2<br>

<input type="radio" name="Horror" value="3"> 3<br>

<input type="radio" name="Horror" value="4"> 4<br>

<input type="radio" name="Horror" value="5"> 5

</div>

<div>

<p><strong><font size="4" color="black"> What is your rating to <font color="Maroon">Musical </font>genre?</strong><br/>Example: La La Land </p>

<input type="radio" name="Musical" value="0" checked>I hate this genre!<br>

<input type="radio" name="Musical" value="1" > 1<br>

<input type="radio" name="Musical" value="2"> 2<br>

<input type="radio" name="Musical" value="3"> 3<br>

<input type="radio" name="Musical" value="4"> 4<br>

<input type="radio" name="Musical" value="5"> 5

</div>

<div>

<p><strong><font size="4" color="black"> What is your rating to <font color="Maroon">Mystery </font>genre?</strong><br/>Example: Memento </p>

<input type="radio" name="Mystery" value="0" checked>I hate this genre!<br>

<input type="radio" name="Mystery" value="1" > 1<br>

<input type="radio" name="Mystery" value="2"> 2<br>

<input type="radio" name="Mystery" value="3"> 3<br>

<input type="radio" name="Mystery" value="4"> 4<br>

<input type="radio" name="Mystery" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Romance </font>genre?</strong><br/>Example: The Notebook </p>

<input type="radio" name="Romance" value="0" checked>I hate this genre!<br>

<input type="radio" name="Romance" value="1" > 1<br>

<input type="radio" name="Romance" value="2"> 2<br>

<input type="radio" name="Romance" value="3"> 3<br>

<input type="radio" name="Romance" value="4"> 4<br>

<input type="radio" name="Romance" value="5"> 5

</div>

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Sci-Fi </font>genre?</strong><br/>Example: Star Wars </p>

<input type="radio" name="SciFi" value="0" checked>I hate this genre!<br>

<input type="radio" name="SciFi" value="1" > 1<br>

<input type="radio" name="SciFi" value="2"> 2<br>

<input type="radio" name="SciFi" value="3"> 3<br>

<input type="radio" name="SciFi" value="4"> 4<br>

<input type="radio" name="SciFi" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">War </font>genre?</strong><br/>Example: Braveheart </p>

<input type="radio" name="War" value="0" checked>I hate this genre!<br>

<input type="radio" name="War" value="1" > 1<br>

<input type="radio" name="War" value="2"> 2<br>

<input type="radio" name="War" value="3"> 3<br>

<input type="radio" name="War" value="4"> 4<br>

<input type="radio" name="War" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Thriller </font>genre?</strong><br/>Example: Seven </p>

<input type="radio" name="Thriller" value="0" checked>I hate this genre!<br>

<input type="radio" name="Thriller" value="1" > 1<br>

<input type="radio" name="Thriller" value="2"> 2<br>

<input type="radio" name="Thriller" value="3"> 3<br>

<input type="radio" name="Thriller" value="4"> 4<br>

<input type="radio" name="Thriller" value="5"> 5

</div>

<div>

<p> <strong><font size="4" color="black">What is your rating to <font color="Maroon">Western </font>genre?</strong><br/>Example: The Good, The Bad and The Ugly </p>

<input type="radio" name="Western" value="0" checked>I hate this genre!<br>

<input type="radio" name="Western" value="1" > 1<br>

<input type="radio" name="Western" value="2"> 2<br>

<input type="radio" name="Western" value="3"> 3<br>

<input type="radio" name="Western" value="4"> 4<br>

<input type="radio" name="Western" value="5"> 5

</div>

<div>

<h3><font color="midnightblue">If you're sure about these ratings, go ahead and click this button!</h3>

</div>

<button type="submit" class="btn btn-success"><font color="navy"><strong>Get Recommendations!</strong></button>

</form>

{% endblock %}

</body>

</html>

------------------->>>>>>>>>>>>>>>>>>>recommendation.html

<!DOCTYPE html>

<head>

<html lang="en" dir="ltr">

<meta charset="utf-8">

<title>Recommendations</title>

<style type="text/css">

body

{

border: 2px solid black;

padding: 0px;

background: url("https://toscon14.files.wordpress.com/2014/05/seminar-presenter-pic.jpg");

background-repeat: no-repeat;

background-size: 450px 450px;

background-position: center center;

}

</style>

</head>

<body bgcolor="Lavender">

{% extends "template.html" %}

{% block content %}

<h1><font color="midnightblue"><strong>Here are the top-20 movies that you'll most probably like:</strong></font></h1>

<p>{{ table }}</p>

{% endblock %}

</body>

</html>