

```
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))


```
<!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>
```

☐ 5

</div>

<div>

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

☒ I hate this genre!

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

</div>

<div>

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

☒ I hate this genre!

☐ 1

☐ 2


```
<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> What is your rating to Drama genre?
Example: The Godfather </p>

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

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

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

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

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

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

</div>

<div>

<p> What is your rating to Fantasy genre?
Example: Harry Potter </p>

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

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

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

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

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

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

</div>

<div>

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

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

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

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

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

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

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

</div>

<div>

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

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

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

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

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

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

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

</div>

<div>

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

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

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

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

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

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

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

</div>

<div>

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

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

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

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


```
<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> What is your rating to <font
color="Maroon">Thriller genre?
Example: Seven </p>

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

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

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

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

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

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

</div>

<div>

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

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

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

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

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

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

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


```

<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>