In [11]:
```
movies = pd.read_csv('dataset (1).csv')
```

In [12]:
```
movies.head()
```

Out[12]:

	id	title	genre	original_language	overview	popularity	rele
0	278	The Shawshank Redemption	Drama,Crime	en	Framed in the 1940s for the double murder of h...	94.075	19
1	19404	Dilwale Dulhania Le Jayenge	Comedy,Drama,Romance	hi	Raj is a rich, carefree, happy-go-lucky second...	25.408	19
2	238	The Godfather	Drama,Crime	en	Spanning the years 1945 to 1955, a chronicle o...	90.585	19
3	424	Schindler's List	Drama,History,War	en	The true story of how businessman Oskar Schind...	44.761	19
4	240	The Godfather: Part II	Drama,Crime	en	In the continuing saga of the Corleone crime f...	57.749	19

In [13]:
```
movies.columns
```

Out[13]:
```
Index(['id', 'title', 'genre', 'original_language', 'overview', 'popularity',
       'release_date', 'vote_average', 'vote_count'],
      dtype='object')
```

In [14]:
```
movies.info()
```

```
 #   Column             Non-Null Count  Dtype
---  ------             --------------  -----
 0   id                 10000 non-null  int64
 1   title              10000 non-null  object
 2   genre              9997 non-null   object
 3   original_language  10000 non-null  object
 4   overview           9987 non-null   object
 5   popularity         10000 non-null  float64
 6   release_date       10000 non-null  object
 7   vote_average       10000 non-null  float64
 8   vote_count         10000 non-null  int64
dtypes: float64(2), int64(2), object(5)
memory usage: 703.2+ KB
```

In [15]:
```
movies['tags'] = movies['genre'] + movies['overview']
```

In [16]:
```
movies.head()
```

Out[16]:

	id	title	genre	original_language	overview	popularity	rele
0	278	The Shawshank Redemption	Drama,Crime	en	Framed in the 1940s for the double murder of h...	94.075	19
1	19404	Dilwale Dulhania Le Jayenge	Comedy,Drama,Romance	hi	Raj is a rich, carefree, happy-go-lucky second...	25.408	19
2	238	The Godfather	Drama,Crime	en	Spanning the years 1945 to 1955, a chronicle o...	90.585	19
3	424	Schindler's List	Drama,History,War	en	The true story of how businessman Oskar Schind...	44.761	19
4	240	The Godfather: Part II	Drama,Crime	en	In the continuing saga of the Corleone crime f...	57.749	19

In [17]:
```
new_df = movies[['id','title','genre','overview','tags']]
```

In [18]:
```
new_df = new_df.drop(columns=['genre','overview'])
```

In [19]:
```
new_df.head()
```

1	19404	Dilwale Dulhania Le Jayenge	Comedy,Drama,RomanceRaj is a rich, carefree, h...
2	238	The Godfather	Drama,CrimeSpanning the years 1945 to 1955, a ...
3	424	Schindler's List	Drama,History,WarThe true story of how busines...
4	240	The Godfather: Part II	Drama,CrimeIn the continuing saga of the Corle...

In [20]:
```
from sklearn.feature_extraction.text import CountVectorizer
```

In [21]:
```
cv = CountVectorizer(max_features=10000, stop_words='english')
```

In [22]:
```
cv
```

Out[22]:
```
CountVectorizer(max_features=10000, stop_words='english')
```

In [23]:
```
vec = cv.fit_transform(new_df['tags'].values.astype('U')).toarray()
```

In [24]:
```
vec
```

Out[24]:
```
array([[0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       ...,
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0]], dtype=int64)
```

In [26]:
```
vec.shape
```

Out[26]:
```
(10000, 10000)
```

In [28]:
```
from sklearn.metrics.pairwise import cosine_similarity
```

In [29]:
```
sim = cosine_similarity(vec)
```

In [30]:
```
sim
```

Out[30]:
```
array([[1.        , 0.06253054, 0.05802589, ..., 0.07963978, 0.07597372,
        0.03798686],
       [0.06253054, 1.        , 0.08980265, ..., 0.        , 0.        ,
        0.        ],
       [0.05802589, 0.08980265, 1.        , ..., 0.02541643, 0.03636965,
        0.        ],
       ...,
       [0.07963978, 0.        , 0.02541643, ..., 1.        , 0.03327792,
        0.03327792],
       [0.07597372, 0.        , 0.03636965, ..., 0.03327792, 1.        ,
        0.04761905],
       [0.03798686, 0.        , 0.        , ..., 0.03327792, 0.04761905,
        1.        ]])
```

2	238	The Godfather	Drama,CrimeSpanning the years 1945 to 1955, a ...

In [33]:
```
dist = sorted(list(enumerate(sim[2])),reverse=True, key=lambda vec:vec[1])
```

In [34]:
```
dist
```

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 (3159, 0.10540925533894598),
 (3556, 0.10540925533894598),
 (3649, 0.10540925533894598),
 (4062, 0.10540925533894598),
 (4428, 0.10540925533894598),
 (4631, 0.10540925533894598),
 (4836, 0.10540925533894598),
 (4850, 0.10540925533894598),
 (4852, 0.10540925533894598),
 (5122, 0.10540925533894598),
 ...]
```

In [38]:
```
for i in dist[0:5]:
  print(new_df.iloc[i[0]].title)
```

```
The Godfather
The Godfather: Part II
Felon
House of Gucci
Gotti
```

In [46]:
```
def recommend(movies):
    index = new_df[new_df['title']==movies].index[0]
    distance = sorted(list(enumerate(sim[index])),reverse=True, key=lambda vec:v
    for i in distance[0:5]:
        print(new_df.iloc[i[0]].title)
```

In [47]:
```
recommend
```

```
Iron Man
Mazinger Z: Infinity
Justice League Dark
Iron Man 3
The Colony
```

In [ ]: