

```
import pandas as pd
```

```
# Sample dataset of movies
```

```
movies_data = {
```

```
    'movie_id': [1, 2, 3, 4, 5, 6],
```

```
    'title': ['Inception', 'Titanic', 'The Matrix', 'The Dark Knight', 'Forrest Gump', 'The Godfather'],
```

```
    'genre': ['Sci-Fi', 'Romance', 'Sci-Fi', 'Action', 'Drama', 'Crime'],
```

```
    'director': ['Christopher Nolan', 'James Cameron', 'Wachowski Brothers', 'Christopher Nolan', 'Robert Zemeckis', 'Francis Ford Coppola'],
```

```
    'lead_actor': ['Leonardo DiCaprio', 'Leonardo DiCaprio', 'Keanu Reeves', 'Christian Bale', 'Tom Hanks', 'Marlon Brando']
```

```
}
```

```
# Convert to DataFrame for easy handling
```

```
movies_df = pd.DataFrame(movies_data)
```

```
# Sample user preferences (e.g., likes Sci-Fi and Leonardo DiCaprio)
```

```
user_preferences = {
```

```
    'genre': 'Sci-Fi',
```

```
    'actor': 'Leonardo DiCaprio'
```

```
}
```

```
# Content-based recommendation function
```

```
def recommend_movies(user_preferences, movies_df):
```

```
recommendations = []
```

```
# Filter movies based on user's preferences
```

```
for _, movie in movies_df.iterrows():
```

```
    match_score = 0
```

```
    # Check genre match
```

```
    if movie['genre'] == user_preferences['genre']:
```

```
        match_score += 1
```

```
    # Check lead actor match
```

```
if user_preferences['actor'] in movie['lead_actor']:

    match_score += 1


# If movie matches preferences, add to recommendations

if match_score > 0:

    recommendations.append({

        'title': movie['title'],

        'genre': movie['genre'],

        'lead_actor': movie['lead_actor'],

        'match_score': match_score

    })
```

```
# Sort recommendations based on match score (highest first)
```

```
recommendations = sorted(recommendations, key=lambda x: x['match_score'], reverse=True)
```

```
return recommendations
```

```
# Get recommendations
```

```
recommended_movies = recommend_movies(user_preferences, movies_df)
```

```
# Display recommendations
```

```
if recommended_movies:
```

```
print("Recommended Movies for You:")
```

```
for movie in recommended_movies:
```

```
    print(f>Title: {movie['title']}, Genre: {movie['genre']}, Lead Actor: {movie['lead_actor']}, Match Score: {movie['match_score']}")
```

```
else:
```

```
    print("No recommendations based on your preferences.")
```