KNN

November 14, 2022

[ ]:
```
# Paweł Iwiński, Cezary Graban - NAI zjazd 3 - KNN
# Referencja 1: https://towardsdatascience.com/
 ↪item-based-collaborative-filtering-in-python-91f747200fab
# Referencja 2: https://linuxhint.com/get-movie-information-raspberry-pi/
import sys
import os
!{sys.executable} -m pip install cinemagoer
```

```
Requirement already satisfied: cinemagoer in c:\users\pawel\anaconda3\lib\site-
packages (2022.2.11)
Requirement already satisfied: lxml in c:\users\pawel\anaconda3\lib\site-
packages (from cinemagoer) (4.4.1)
Requirement already satisfied: SQLAlchemy in c:\users\pawel\anaconda3\lib\site-
packages (from cinemagoer) (1.3.9)

WARNING: There was an error checking the latest version of pip.
```

[ ]:
```
import numpy as np
import pandas as pd
import imdb
from tmdbv3api import TMDb, Movie
from sklearn.neighbors import NearestNeighbors
```

[ ]:
```
# Load the data
df = pd.read_csv("NAI - dane.csv", header=None)
df.head(5)
```

[ ]:

	0	1	2	3	4	5	6	7	8
0	Paweł Czapiewski	Polowanie na Czerwony Październik	10	Rick & Morty	10	The Big Bang Theory	8	Braveheart	10
1	Łukasz Cettler	Rick & Morty	10	Fight club	10	Ona	7	Whiplash	9
2	Paweł Iwiński	Ojciec Chrzestny	10	South Park	9	Na wspólnej	3	The Room	5
3	Oktawian Filipkowski	Strażnicy Galaktyki	8						
4	Krzysztof Lewandowski	CONTRATIEMPO	10						

```
3  Strażnicy Galaktyki 2   9      Thor : Ragnarok   8  Fate/Apocrypha  10
4             Praktykant  10         Harry Potter  10      Nietykalni  10

                   9   …             63    64                     65   66  \
0         The Expanse  …            NaN   NaN                    NaN  NaN
1           John Wick  …       Deadpool   8.0  Fantastyczne zwierzęta  4.0
2  Chłopaki z baraków  …             To   6.0             Przegryź to  2.0
3            Pianista  …  Kapitan Bomba  10.0                    NaN  NaN
4        Forrest Gump  …            NaN   NaN                    NaN  NaN

                           67   68       69   70                   71   72
0                         NaN  NaN      NaN  NaN                  NaN  NaN
1  Pięćdziesiąt twarzy black'a  3.0  365 dni  1.0      Wyznania Gejszy  9.0
2                   Moneyball  6.0   Hostel  2.0  Złodziej tożsamości  3.0
3                         NaN  NaN      NaN  NaN                  NaN  NaN
4                         NaN  NaN      NaN  NaN                  NaN  NaN

[5 rows x 73 columns]
```

[ ]:
```
# Transpose the dataframe
df = df.T
df.columns = df.iloc[0]
df = df[1:]
df
```

[ ]:
```
0                    Paweł Czapiewski   Łukasz Cettler        Paweł Iwiński  \
1   Polowanie na Czerwony Październik     Rick & Morty     Ojciec Chrzestny
2                                   10               10                   10
3                        Rick & Morty       Fight club          South Park
4                                   10               10                    9
5                 The Big Bang Theory              Ona         Na wspólnej
..                                ...              ...                 ...
68                                NaN                3                   6
69                                NaN          365 dni              Hostel
70                                NaN                1                   2
71                                NaN  Wyznania Gejszy  Złodziej tożsamości
72                                NaN                9                   3

0    Oktawian Filipkowski Krzysztof Lewandowski Kamil Kornatowski  \
1     Strażnicy Galaktyki          CONTRATIEMPO      Blade Runner
2                       8                    10               10
3   Strażnicy Galaktyki 2           Praktykant      Hydrozagadka
4                       9                    10                8
5         Thor : Ragnarok          Harry Potter       Kraina Lodu
..                    …                     …               …
68                  NaN                   NaN             NaN
69                  NaN                   NaN             NaN
```

```
70                   NaN                   NaN               NaN
71                   NaN                   NaN               NaN
72                   NaN                   NaN               NaN

0  Dominik Pasymowski        Maciej Zakrzewski  Jakub Jabłoński  \
1        Rick & Morty  Między piekłem a niebem           Narcos
2                   8                        10               10
3        Harry Potter             Dzień świra     Rick & Morty
4                  10                        10               10
5           Star Wars                    K-PAX  Game of Thrones
..                …                        …                …
68               NaN                      NaN              NaN
69               NaN                      NaN              NaN
70               NaN                      NaN              NaN
71               NaN                      NaN              NaN
72               NaN                      NaN              NaN

0  Stanisław Kibort Marcin Kloczkowski Wojciech Mierzejewski  \
1            Django      Kapitan Bomba     Siedmiu Samurajów
2                10                 10                   10
3      Rick & Morty          Star Wars      Popiół i Diament
4                10                  8                   10
5         Star Wars       Forrest Gump         Prawo i Pięść
..              …                  …                    …
68              NaN                NaN                  NaN
69              NaN                NaN                  NaN
70              NaN                NaN                  NaN
71              NaN                NaN                  NaN
72              NaN                NaN                  NaN

0         Adam Kałuża Cezary Graban Sylwester Kąkol Adam Jurkiewicz  \
1        Rick & Morty        Avatar     Jojo Rabbit         Na noże
2                  10             8              10               8
3   Władca Pierścieni    South Park       Dunkierka        Parasite
4                  10             9              10               8
5       Kapitan Bomba  Rick & Morty   Bękarty Wojny           Diuna
..                …              …               …               …
68              NaN            NaN              10               7
69              NaN            NaN        Wiedźmin          Avatar
70              NaN            NaN               4               8
71              NaN            NaN             NaN    Forrest Gump
72              NaN            NaN             NaN               9

0                      Michał Cichowski
1                                Casino
2                                     9
3                                  Heat
```

```
4                                      10
5   Niezwykły przypadek Brnjamina Buttona
..                                    …
68                                    NaN
69                                    NaN
70                                    NaN
71                                    NaN
72                                    NaN

[72 rows x 17 columns]
```

[ ]:
```
# Flatten the df in order to obtain lsit with users, ratings and movies
squash = []
for (columnName, columnData) in df.iteritems():
    squash.append(df[columnName])

df_per_user = []
for i in range(len(squash)):
    movies = squash[i][::2].reset_index(drop=True)
    scores = squash[i][1::2].reset_index(drop=True)
    concated = pd.merge(movies, scores, left_index=True, right_index=True)

    concated["user"] = movies.name
    concated.columns = ["movie", "rating", "user"]
    concated = concated.dropna()
    df_per_user.append(concated)

concat_df = pd.concat(df_per_user).reset_index(drop=True)
concat_df
```

[ ]:
```
                              movie rating              user
0    Polowanie na Czerwony Październik     10  Paweł Czapiewski
1                         Rick & Morty     10  Paweł Czapiewski
2                The Big Bang Theory      8  Paweł Czapiewski
3                          Braveheart     10  Paweł Czapiewski
4                         The Expanse      7  Paweł Czapiewski
..                                …    …               …
482                       Inflitracja    7.5  Michał Cichowski
483                Choć goni nas czas      8  Michał Cichowski
484                   Ojciec Chrzesny      8  Michał Cichowski
485                            Friday      7  Michał Cichowski
486                       Super Zioło      6  Michał Cichowski

[487 rows x 3 columns]
```

[ ]:
```
# Get unique values
scores = concat_df[["user", "rating"]]
```

```
movies = concat_df["movie"].unique()
users = concat_df["user"].unique()
```

[ ]:
```
# Create df out of the unique values and assaign Nan to all cell values
data = pd.DataFrame(index=range(0,len(movies)),columns=users)
data.index = movies
data
```

[ ]:
```
                                  Paweł Czapiewski Łukasz Cettler  \
Polowanie na Czerwony Październik              NaN             NaN
Rick & Morty                                   NaN             NaN
The Big Bang Theory                            NaN             NaN
Braveheart                                     NaN             NaN
The Expanse                                    NaN             NaN
…                                              …               …
Inflitracja                                    NaN             NaN
Choć goni nas czas                             NaN             NaN
Ojciec Chrzesny                                NaN             NaN
Friday                                         NaN             NaN
Super Zioło                                    NaN             NaN

                                  Paweł Iwiński Oktawian Filipkowski  \
Polowanie na Czerwony Październik           NaN                   NaN
Rick & Morty                                NaN                   NaN
The Big Bang Theory                         NaN                   NaN
Braveheart                                  NaN                   NaN
The Expanse                                 NaN                   NaN
…                                           …                     …
Inflitracja                                 NaN                   NaN
Choć goni nas czas                          NaN                   NaN
Ojciec Chrzesny                             NaN                   NaN
Friday                                      NaN                   NaN
Super Zioło                                 NaN                   NaN

                                  Krzysztof Lewandowski Kamil Kornatowski  \
Polowanie na Czerwony Październik                   NaN               NaN
Rick & Morty                                        NaN               NaN
The Big Bang Theory                                 NaN               NaN
Braveheart                                          NaN               NaN
The Expanse                                         NaN               NaN
…                                                   …                 …
Inflitracja                                         NaN               NaN
Choć goni nas czas                                  NaN               NaN
Ojciec Chrzesny                                     NaN               NaN
Friday                                              NaN               NaN
Super Zioło                                         NaN               NaN
```

```
                                Dominik Pasymowski Maciej Zakrzewski  \
Polowanie na Czerwony Październik                NaN               NaN
Rick & Morty                                     NaN               NaN
The Big Bang Theory                              NaN               NaN
Braveheart                                       NaN               NaN
The Expanse                                      NaN               NaN
…                                                …                 …
Inflitracja                                      NaN               NaN
Choć goni nas czas                               NaN               NaN
Ojciec Chrzesny                                  NaN               NaN
Friday                                           NaN               NaN
Super Zioło                                      NaN               NaN

                                Jakub Jabłoński Stanisław Kibort  \
Polowanie na Czerwony Październik             NaN              NaN
Rick & Morty                                  NaN              NaN
The Big Bang Theory                           NaN              NaN
Braveheart                                    NaN              NaN
The Expanse                                   NaN              NaN
…                                             …                …
Inflitracja                                   NaN              NaN
Choć goni nas czas                            NaN              NaN
Ojciec Chrzesny                               NaN              NaN
Friday                                        NaN              NaN
Super Zioło                                   NaN              NaN

                                Marcin Kloczkowski Wojciech Mierzejewski  \
Polowanie na Czerwony Październik                NaN                   NaN
Rick & Morty                                     NaN                   NaN
The Big Bang Theory                              NaN                   NaN
Braveheart                                       NaN                   NaN
The Expanse                                      NaN                   NaN
…                                                …                     …
Inflitracja                                      NaN                   NaN
Choć goni nas czas                               NaN                   NaN
Ojciec Chrzesny                                  NaN                   NaN
Friday                                           NaN                   NaN
Super Zioło                                      NaN                   NaN

                                Adam Kałuża Cezary Graban Sylwester Kąkol  \
Polowanie na Czerwony Październik         NaN           NaN             NaN
Rick & Morty                              NaN           NaN             NaN
The Big Bang Theory                       NaN           NaN             NaN
Braveheart                                NaN           NaN             NaN
The Expanse                               NaN           NaN             NaN
…                                         …             …               …
Inflitracja                               NaN           NaN             NaN
```

```
Choć goni nas czas                          NaN           NaN             NaN
Ojciec Chrzesny                             NaN           NaN             NaN
Friday                                      NaN           NaN             NaN
Super Zioło                                 NaN           NaN             NaN

                                  Adam Jurkiewicz Michał Cichowski
Polowanie na Czerwony Październik              NaN              NaN
Rick & Morty                                   NaN              NaN
The Big Bang Theory                            NaN              NaN
Braveheart                                     NaN              NaN
The Expanse                                    NaN              NaN
…                                              …                …
Inflitracja                                    NaN              NaN
Choć goni nas czas                             NaN              NaN
Ojciec Chrzesny                                NaN              NaN
Friday                                         NaN              NaN
Super Zioło                                    NaN              NaN

[329 rows x 17 columns]
```

[ ]:
```
# Fill the Nan values from above with concataned dataframe calculated previously
integer = 0
for rowIndex, row in data.iterrows(): #iterate over rows
    for columnIndex, value in row.items():
        if concat_df[(concat_df['movie'] == rowIndex) & (concat_df['user'] ==␣
 ↪columnIndex)]["rating"].values.size > 0:
            value = concat_df[(concat_df['movie'] == rowIndex) &␣
 ↪(concat_df['user'] == columnIndex)]["rating"].values[0]
        else:
            value = 0
        data.loc[rowIndex, columnIndex] = value

df1 = data.copy()
df1
```

[ ]:
```
                                  Paweł Czapiewski Łukasz Cettler  \
Polowanie na Czerwony Październik               10              0
Rick & Morty                                    10             10
The Big Bang Theory                              8              0
Braveheart                                      10              0
The Expanse                                      7              0
…                                                …              …
Inflitracja                                      0              0
Choć goni nas czas                               0              0
Ojciec Chrzesny                                  0              0
Friday                                           0              0
Super Zioło                                      0              0
```

```
                                Paweł Iwiński Oktawian Filipkowski  \
Polowanie na Czerwony Październik             0                    0
Rick & Morty                                  7                    0
The Big Bang Theory                           0                    0
Braveheart                                    0                    0
The Expanse                                   0                    0
…                                           …                    …
Inflitracja                                   0                    0
Choć goni nas czas                            0                    0
Ojciec Chrzesny                               0                    0
Friday                                        0                    0
Super Zioło                                   0                    0

                                Krzysztof Lewandowski Kamil Kornatowski  \
Polowanie na Czerwony Październik                     0                0
Rick & Morty                                          0                0
The Big Bang Theory                                   0                0
Braveheart                                            0                0
The Expanse                                           0                0
…                                                   …                …
Inflitracja                                           0                0
Choć goni nas czas                                    0                0
Ojciec Chrzesny                                       0                0
Friday                                                0                0
Super Zioło                                           0                0

                                Dominik Pasymowski Maciej Zakrzewski  \
Polowanie na Czerwony Październik                  0                 0
Rick & Morty                                       8                 0
The Big Bang Theory                                0                 0
Braveheart                                         0                 0
The Expanse                                        0                 0
…                                                …                 …
Inflitracja                                        0                 0
Choć goni nas czas                                 0                 0
Ojciec Chrzesny                                    0                 0
Friday                                             0                 0
Super Zioło                                        0                 0

                                Jakub Jabłoński Stanisław Kibort  \
Polowanie na Czerwony Październik               0               0
Rick & Morty                                   10              10
The Big Bang Theory                             0               0
Braveheart                                      0               0
The Expanse                                     0               0
…                                             …               …
```

```
Inflitracja                                0                0
Choć goni nas czas                         0                0
Ojciec Chrzesny                            0                0
Friday                                     0                0
Super Zioło                                0                0

                                 Marcin Kloczkowski Wojciech Mierzejewski  \
Polowanie na Czerwony Październik                 0                     0
Rick & Morty                                      0                     0
The Big Bang Theory                               0                     0
Braveheart                                        0                     0
The Expanse                                       0                     0
…                                               …                     …
Inflitracja                                       0                     0
Choć goni nas czas                                0                     0
Ojciec Chrzesny                                   0                     0
Friday                                            0                     0
Super Zioło                                       0                     0

                                 Adam Kałuża Cezary Graban Sylwester Kąkol  \
Polowanie na Czerwony Październik           0             0               0
Rick & Morty                               10             9               7
The Big Bang Theory                         0             0               0
Braveheart                                  0             0               0
The Expanse                                 0             0               0
…                                         …             …               …
Inflitracja                                 0             0               0
Choć goni nas czas                          0             0               0
Ojciec Chrzesny                             0             0               0
Friday                                      0             0               0
Super Zioło                                 0             0               0

                                 Adam Jurkiewicz Michał Cichowski
Polowanie na Czerwony Październik                0               0
Rick & Morty                                     0               0
The Big Bang Theory                              0               0
Braveheart                                       0               0
The Expanse                                      0               0
…                                              …               …
Inflitracja                                      0             7.5
Choć goni nas czas                               0               8
Ojciec Chrzesny                                  0               8
Friday                                           0               7
Super Zioło                                      0               6

[329 rows x 17 columns]
```

[ ]:
```
# Copy both df for simplicity in the naming system.
df = df1.copy()
df1 = df.copy()
```

[ ]:
```
# Create a function for a movie recomendations for a given user
def recommend_movies(user, num_recommended_movies):
    """Recommend movies for a given user based on sorted list with movies.

    Args:
        user (str): User for which we want recommendations.
        num_recommended_movies (int): How many movies do we want for user.
    """
    recommended_movies = []
    for m in df[df[user] == 0].index.tolist():
        index_df = df.index.tolist().index(m)
        predicted_rating = df1.iloc[index_df, df1.columns.tolist().index(user)]
        recommended_movies.append((m, predicted_rating))

    sorted_rm = sorted(recommended_movies, key=lambda x: x[1], reverse=True)

    print("Recommended movies")
    rank = 1
    for recommended_movie in sorted_rm[:num_recommended_movies]:
        print("{}: {}".format(rank, recommended_movie[0]))
        rank = rank + 1
    print('\n')

    sorted_rm = sorted(recommended_movies, key=lambda x: x[1], reverse=False)
    print("Not recommended movies")
    rank = 1
    for recommended_movie in sorted_rm[:num_recommended_movies]:
        print("{}: {}".format(rank, recommended_movie[0]))
        rank = rank + 1
```

[ ]:
```
df1 = df.copy()
# Recomend a movie based on a KNN
def movie_recommender(user, num_neighbors, num_recommendation, metric="cosine",␣
 ↪algorithm="brute"):
    """Function for movie recommendations that uses the KNN to obtain closest␣
 ↪distance for the movie scores.

    Args:
        user (str): User for which we want recommendations.
        num_neighbors (int): Number of neighbours in KNN
        num_recommendation (int): Number of the recomendations that we want for␣
 ↪the user.
        metric (str, optional): Matric for knn. Defaults to "cosine".
```

```
        algorithm (str, optional): Algorithm for knn. Defaults to "brute".
    """
    number_neighbors = num_neighbors

    knn = NearestNeighbors(metric=metric, algorithm=algorithm)
    knn.fit(df.values)
    distances, indices = knn.kneighbors(df.values, n_neighbors=number_neighbors)

    user_index = df.columns.tolist().index(user)

    for m, t in list(enumerate(df.index)):
        if df.iloc[m, user_index] == 0:
            sim_movies = indices[m].tolist()
            movie_distances = distances[m].tolist()

            if m in sim_movies:
                id_movie = sim_movies.index(m)
                sim_movies.remove(m)
                movie_distances.pop(id_movie)
            else:
                sim_movies = sim_movies[: num_neighbors - 1]
                movie_distances = movie_distances[: num_neighbors - 1]

            movie_similarity = [1 - x for x in movie_distances]
            movie_similarity_copy = movie_similarity.copy()
            nominator = 0

            for s in range(0, len(movie_similarity)):
                if df.iloc[sim_movies[s], user_index] == 0:
                    if len(movie_similarity_copy) == (number_neighbors - 1):
                        movie_similarity_copy.pop(s)
                    else:
                        movie_similarity_copy.pop(
                            s - (len(movie_similarity) -␣
↪len(movie_similarity_copy))
                        )
                else:
                    nominator = (
                        nominator
                        + movie_similarity[s] * df.iloc[sim_movies[s],␣
↪user_index]
                    )

            if len(movie_similarity_copy) > 0:
                if sum(movie_similarity_copy) > 0:
                    predicted_r = nominator / sum(movie_similarity_copy)
                else:
```

```
                    predicted_r = 0

            else:
                predicted_r = 0

            df1.iloc[m, user_index] = predicted_r
    recommend_movies(user, num_recommendation)
```

[ ]:
```
# Type user below, with number of neigbours and number of movie recommendations.
movie_recommender("Paweł Iwiński", 3, 5, metric="cosine", algorithm="brute")
```

```
Recommended movies
1: Parasite
2: John Wick
3: Kraina Lodu
4: Narodziny Gwiazdy
5: Terminal


Not recommended movies
1: Polowanie na Czerwony Październik
2: The Big Bang Theory
3: Braveheart
4: The Expanse
5: Dziennik Bridget Jones
```

[ ]:
```
# Type user below, with number of neigbours and number of movie recommendations.
movie_recommender("Paweł Iwiński", 3, 5, algorithm="ball_tree",␣
 ↪metric="minkowski")
```

```
Recommended movies
1: Polowanie na Czerwony Październik
2: The Big Bang Theory
3: Braveheart
4: The Expanse
5: Kraina Lodu


Not recommended movies
1: Polowanie na Czerwony Październik
2: The Big Bang Theory
3: Braveheart
4: The Expanse
5: Kraina Lodu
```

[ ]:
```
# Type user below, with number of neigbours and number of movie recommendations.
movie_recommender("Paweł Iwiński", 3, 5, algorithm="auto", metric="cosine")
```

```
Recommended movies
1: Parasite
2: John Wick
3: Kraina Lodu
4: Narodziny Gwiazdy
5: Terminal


Not recommended movies
1: Polowanie na Czerwony Październik
2: The Big Bang Theory
3: Braveheart
4: The Expanse
5: Dziennik Bridget Jones
```

[ ]:
```python
movie = "Avengers"

# define a function to print names from a list
def List_of_names(nameList):
    """Extract name and surname from the lsit with people.

    Args:
        nameList (list): List containing people working on a movie

    Returns:
        str: long string containing people.
    """
    names=''
    # for each person object, extracts name tag and append to our names string
    if nameList is None: return ''
    for i in nameList: names=names+'; '+str(i.get('name'))
    # returns final string shifted by 2 chars to manage initial " ;"
    return names[2:]


# initializes IMDb funtion and searches for our name
x= imdb.IMDb()
movies = x.search_movie(movie)

# if more film titles are matching search, ask user to refine search title
if len(movies) > 1:
    print('More films matching query:\n')
    print('Number | Film title')
    print('--------------------')
    id=0
    for i in movies:
        print(str(id)+'  |   '+i['title'])
```

```
        id +=1
    # Ask user to choos film mumber
    userInput=input("Please input film number: ")
    film=movies[int(userInput)]
    print()
else:
    # if only 1 film matches search, it is automatically selected
    film=movies[0]

filmID=film.movieID

# get film data
movie = x.get_movie(filmID)
```

```
More films matching query:

Number | Film title
--------------------
0  |   The Avengers
1  |   Marvel's Avengers
2  |   Avengers: United They Stand
3  |   Avengers: Endgame
4  |   Avengers: Infinity War
5  |   Avengers: Secret Wars
6  |   Avengers: Age of Ultron
7  |   Avengers: The Kang Dynasty
8  |   The Avengers
9  |   Passengers
10  |   The Avengers
11  |   Avengement
12  |   Captain America: The First Avenger
13  |   Tokyo Revengers
14  |   Avengers Assemble
15  |   Avenged
16  |   The Toxic Avenger
17  |   Avenger
18  |   Halloween 5: The Revenge of Michael Myers
19  |   The New Avengers
```

[ ]:
```
# print main film data
print('Title: ' + movie.get('title'))
print('IMDb ID: ' + str(filmID))
print()
print("Plot:" + str(movie.get("plot")))
print()
print('Cover URL: '+ str(movie.get('cover url')))
```

```
print()
print('Original title: '+movie.get('original title')+' | '+str(movie.
 ↪get('genres')))
print()
print('Rating: ' + str(movie.get('rating'))+' (based on '+str(movie.
 ↪get('votes'))+' votes)')
print()
print('Directors: '+List_of_names(movie.get('directors')))
```

```
Title: The Avengers
IMDb ID: 0848228

Plot:["Earth's mightiest heroes must come together and learn to fight as a team
if they are going to stop the mischievous Loki and his alien army from enslaving
humanity.", "Loki, the adopted brother of Thor, teams-up with the Chitauri Army
and uses the Tesseract's power to travel from Asgard to Midgard to plot the
invasion of Earth and become a king. The director of the agency S.H.I.E.L.D.,
Nick Fury, sets in motion project Avengers, joining Tony Stark a.k.a. the Iron
Man; Steve Rogers, a.k.a. Captain America; Bruce Banner, a.k.a. The Hulk; Thor;
Natasha Romanoff, a.k.a. Black Widow; and Clint Barton, a.k.a. Hawkeye, to save
the world from the powerful Loki and the alien invasion.::Claudio Carvalho, Rio
de Janeiro, Brazil", "S.H.I.E.L.D. has located the mysterious Tesseract device
and the Army's super soldier Captain America. The Tesseract is actually a
gateway to an entirely new world called Asgard. A mysterious being known as Loki
arrives on earth and immediately assumes that he can rule all human beings. But
that irks S.H.I.E.L.D. director Nick Fury the wrong way. As Loki escapes with
the Tesseract, Nick Fury believes this is an act of war against Earth. His only
hope is to assemble an actual team of super heroes. Dr. Bruce Banner, who turns
into an enormous green rage monster known as the Hulk. Tony Stark and his
venerable Iron Man armor. Captain America, the Stark Enterprises created super
soldier. Thor, the god of thunder, protector of Earth and his home planet of
Asgard, and Loki's brother. Master assassins Hawkeye and Natasha Romanoff.
Together they will become a team to take on an attack that will call them to
become the greatest of all time.::halo1k"]

Cover URL: https://m.media-amazon.com/images/M/MV5BNDYxNjQyMjAtNTdiOS00NGYwLWFmN
TAtNThmYjU5ZGI2YTI1XkEyXkFqcGdeQXVyMTMxODk2OTU@._V1_SY150_CR0,0,101,150_.jpg

Original title: The Avengers | ['Action', 'Adventure', 'Sci-Fi']

Rating: 8.0 (based on 1385356 votes)

Directors: Joss Whedon
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