assignment

October 4, 2023

```python
[30]: import pandas as pd
      data = pd.read_csv("1000_movies_data.csv")
      data.loc[data['Genre']=="Action"]
```

```
[30]:      Rank              Title   Genre  \
      123   124  Boyka: Undisputed IV  Action
      580   581  Kickboxer: Vengeance  Action


                                         Description         Director  \
      123  In the fourth installment of the fighting fran…  Todor Chapkanov
      580          A kick boxer is out to avenge his brother.   John Stockwell


                                         Actors  Year  \
      123  Scott Adkins, Teodora Duhovnikova, Alon Aboutb…  2016
      580  Dave Bautista, Alain Moussi, Gina Carano, Jean…  2016


           Runtime (Minutes)  Rating  Votes  Revenue (Millions)  Metascore
      123                 86     7.4  10428                 NaN        NaN
      580                 90     4.9   6809              131.56       37.0
```

```python
[32]: df = pd.read_csv("1000_movies_data.csv")
      df[df['Genre']=='Action']
      df['Title']
```

```
[32]: 0       Guardians of the Galaxy
      1                    Prometheus
      2                         Split
      3                          Sing
      4                  Suicide Squad
                      …
      995        Secret in Their Eyes
      996             Hostel: Part II
      997      Step Up 2: The Streets
      998                 Search Party
      999                   Nine Lives
      Name: Title, Length: 1000, dtype: object
```

```
[4]: df = pd.read_csv("1000_movies_data.csv")
     df.loc[(df.Year > 2015)]
```

```
[4]:      Rank                       Title                      Genre  \
     2        3                       Split           Horror,Thriller
     3        4                        Sing   Animation,Comedy,Family
     4        5                Suicide Squad  Action,Adventure,Fantasy
     5        6               The Great Wall  Action,Adventure,Fantasy
     6        7                   La La Land        Comedy,Drama,Music
     ..     …                          …                         …
     975    976    My Big Fat Greek Wedding 2   Comedy,Family,Romance
     977    978                Amateur Night                   Comedy
     978    979   It's Only the End of the World                Drama
     980    981            Miracles from Heaven   Biography,Drama,Family
     999   1000                   Nine Lives   Comedy,Family,Fantasy

                                        Description          Director  \
     2      Three girls are kidnapped by a man with a diag…   M. Night Shyamalan
     3      In a city of humanoid animals, a hustling thea…  Christophe Lourdelet
     4      A secret government agency recruits some of th…           David Ayer
     5      European mercenaries searching for black powde…          Yimou Zhang
     6      A jazz pianist falls for an aspiring actress i…      Damien Chazelle
     ..                                              …                      …
     975    A Portokalos family secret brings the beloved …           Kirk Jones
     977    Guy Carter is an award-winning graduate studen…         Lisa Addario
     978    Louis (Gaspard Ulliel), a terminally ill write…         Xavier Dolan
     980    A young girl suffering from a rare digestive d…       Patricia Riggen
     999    A stuffy businessman finds himself trapped ins…      Barry Sonnenfeld

                                            Actors  Year  \
     2       James McAvoy, Anya Taylor-Joy, Haley Lu Richar…  2016
     3       Matthew McConaughey,Reese Witherspoon, Seth Ma…  2016
     4       Will Smith, Jared Leto, Margot Robbie, Viola D…  2016
     5          Matt Damon, Tian Jing, Willem Dafoe, Andy Lau  2016
     6       Ryan Gosling, Emma Stone, Rosemarie DeWitt, J…  2016
     ..                                             …     …
     975     Nia Vardalos, John Corbett, Michael Constantin…  2016
     977     Jason Biggs, Janet Montgomery,Ashley Tisdale, …  2016
     978     Nathalie Baye, Vincent Cassel, Marion Cotillar…  2016
     980     Jennifer Garner, Kylie Rogers, Martin Henderso…  2016
     999     Kevin Spacey, Jennifer Garner, Robbie Amell,Ch…  2016

          Runtime (Minutes)  Rating   Votes  Revenue (Millions)  Metascore
     2                  117     7.3  157606              138.12       62.0
     3                  108     7.2   60545              270.32       59.0
     4                  123     6.2  393727              325.02       40.0
     5                  103     6.1   56036               45.13       42.0
```

```
6                  128    8.3  258682              151.06      93.0
..                  …      …      …                   …          …
975                 94    6.0   20966               59.57      37.0
977                 92    5.0    2229                 NaN       38.0
978                 97    7.0   10658                 NaN       48.0
980                109    7.0   12048               61.69      44.0
999                 87    5.3   12435               19.64      11.0

[297 rows x 12 columns]
```

```
[5]: df = pd.read_csv("1000_movies_data.csv")
     maximum=df["Runtime (Minutes)"].max()
     df.loc[df["Runtime (Minutes)"]==maximum]
```

```
[5]:      Rank      Title                    Genre  \
     828   829  Grindhouse  Action,Horror,Thriller


                                             Description         Director  \
     828  Quentin Tarantino and Robert Rodriguez's homag…  Robert Rodriguez


                                       Actors  Year  \
     828  Kurt Russell, Rose McGowan, Danny Trejo, Zoë Bell  2007


          Runtime (Minutes)  Rating   Votes  Revenue (Millions)  Metascore
     828                191     7.6  160350               25.03        NaN
```

```
[6]: df = pd.read_csv("1000_movies_data.csv")
     df.loc[(df.Rating > 7.5)]
```

```
[6]:      Rank                        Title                        Genre  \
     0       1       Guardians of the Galaxy    Action,Adventure,Sci-Fi
     6       7                   La La Land          Comedy,Drama,Music
     11     12               Hidden Figures    Biography,Drama,History
     12     13                   Rogue One    Action,Adventure,Sci-Fi
     13     14                       Moana  Animation,Adventure,Comedy
     ..     …                          …                           …
     950   951  Me and Earl and the Dying Girl          Comedy,Drama
     957   958                 End of Watch    Crime,Drama,Thriller
     959   960            Lucky Number Slevin    Crime,Drama,Mystery
     979   980            The Skin I Live In         Drama,Thriller
     991   992            Taare Zameen Par     Drama,Family,Music


                                             Description         Director  \
     0      A group of intergalactic criminals are forced …         James Gunn
     6      A jazz pianist falls for an aspiring actress i…    Damien Chazelle
     11     The story of a team of female African-American…      Theodore Melfi
     12     The Rebel Alliance makes a risky move to steal…      Gareth Edwards
```

```
13     In Ancient Polynesia, when a terrible curse in…            Ron Clements
..                                                  …                        …
950    High schooler Greg, who spends most of his tim…   Alfonso Gomez-Rejon
957    Shot documentary-style, this film follows the …             David Ayer
959    A case of mistaken identity lands Slevin into …           Paul McGuigan
979    A brilliant plastic surgeon, haunted by past t…       Pedro Almodóvar
991    An eight-year-old boy is thought to be a lazy …             Aamir Khan

                                                     Actors  Year  \
0      Chris Pratt, Vin Diesel, Bradley Cooper, Zoe S…   2014
6      Ryan Gosling, Emma Stone, Rosemarie DeWitt, J…    2016
11     Taraji P. Henson, Octavia Spencer, Janelle Mon…  2016
12     Felicity Jones, Diego Luna, Alan Tudyk, Donnie…  2016
13     Auli'i Cravalho, Dwayne Johnson, Rachel House,…  2016
..                                                  …     …
950    Thomas Mann, RJ Cyler, Olivia Cooke, Nick Offe…  2015
957    Jake Gyllenhaal, Michael Peña, Anna Kendrick, …  2012
959    Josh Hartnett, Ben Kingsley, Morgan Freeman, L…  2006
979    Antonio Banderas, Elena Anaya, Jan Cornet,Mari…  2011
991    Darsheel Safary, Aamir Khan, Tanay Chheda, Sac…  2007

       Runtime (Minutes)  Rating    Votes  Revenue (Millions)  Metascore
0                    121     8.1   757074              333.13       76.0
6                    128     8.3   258682              151.06       93.0
11                   127     7.8    93103              169.27       74.0
12                   133     7.9   323118              532.17       65.0
13                   107     7.7   118151              248.75       81.0
..                   …       …      …                  …            …
950                  105     7.8    92076                6.74       74.0
957                  109     7.7   192190               40.98       68.0
959                  110     7.8   271940               22.49       53.0
979                  120     7.6   108772                3.19       70.0
991                  165     8.5   102697                1.20       42.0

[195 rows x 12 columns]
```

[28]:
```
df = pd.read_csv("1000_movies_data.csv")
df[(df['Actors']=='Will Smith')&(df.Rating>7.5)]
```

[28]:
```
Empty DataFrame
Columns: [Rank, Title, Genre, Description, Director, Actors, Year, Runtime
(Minutes), Rating, Votes, Revenue (Millions), Metascore]
Index: []
```

[8]:
```
df = pd.read_csv("1000_movies_data.csv")
df[(df['Director']=='James Gray')&(df.Metascore>70)]
```

```
[8]:     Rank              Title                          Genre  \
    8     9   The Lost City of Z  Action,Adventure,Biography

                                        Description      Director  \
    8  A true-life drama, centering on British explor…   James Gray

                                      Actors  Year  Runtime (Minutes)  \
    8  Charlie Hunnam, Robert Pattinson, Sienna Mille…  2016                141

       Rating  Votes  Revenue (Millions)  Metascore
    8     7.1   7188                8.01       78.0
```

```python
df = pd.read_csv("1000_movies_data.csv")
df[df['Title'].str.startswith("The")]
```

```
[9]:      Rank                 Title                          Genre  \
    5       6         The Great Wall    Action,Adventure,Fantasy
    8       9     The Lost City of Z  Action,Adventure,Biography
    15     16  The Secret Life of Pets  Animation,Adventure,Comedy
    38     39    The Magnificent Seven    Action,Adventure,Western
    43     44            The Founder       Biography,Drama,History
    ..     …                      …                            …
    953   954       The Kings of Summer      Adventure,Comedy,Drama
    962   963     The Other Boleyn Girl      Biography,Drama,History
    967   968               The Walk    Adventure,Biography,Crime
    969   970        The Lone Ranger     Action,Adventure,Western
    979   980       The Skin I Live In               Drama,Thriller

                                        Description             Director  \
    5    European mercenaries searching for black powde…        Yimou Zhang
    8    A true-life drama, centering on British explor…        James Gray
    15   The quiet life of a terrier named Max is upend…      Chris Renaud
    38   Seven gunmen in the old west gradually come to…     Antoine Fuqua
    43   The story of Ray Kroc, a salesman who turned t…   John Lee Hancock
    ..                                               …                  …
    953  Three teenage friends, in the ultimate act of …  Jordan Vogt-Roberts
    962  Two sisters contend for the affection of King …     Justin Chadwick
    967  In 1974, high-wire artist Philippe Petit recru…    Robert Zemeckis
    969  Native American warrior Tonto recounts the unt…     Gore Verbinski
    979  A brilliant plastic surgeon, haunted by past t…    Pedro Almodóvar

                                      Actors  Year  \
    5        Matt Damon, Tian Jing, Willem Dafoe, Andy Lau  2016
    8    Charlie Hunnam, Robert Pattinson, Sienna Mille…  2016
    15   Louis C.K., Eric Stonestreet, Kevin Hart, Lake…  2016
    38   Denzel Washington, Chris Pratt, Ethan Hawke,Vi…  2016
    43   Michael Keaton, Nick Offerman, John Carroll Ly…  2016
```

```
..                                              …    …
953  Nick Robinson, Gabriel Basso, Moises Arias,Nic…  2013
962  Natalie Portman, Scarlett Johansson, Eric Bana…  2008
967  Joseph Gordon-Levitt, Charlotte Le Bon,Guillau…  2015
969  Johnny Depp, Armie Hammer, William Fichtner,To…  2013
979  Antonio Banderas, Elena Anaya, Jan Cornet,Mari…  2011

     Runtime (Minutes)  Rating   Votes  Revenue (Millions)  Metascore
5                  103     6.1   56036               45.13       42.0
8                  141     7.1    7188                8.01       78.0
15                  87     6.6  120259              368.31       61.0
38                 132     6.9  122853               93.38       54.0
43                 115     7.2   37033               12.79       66.0
..                 …       …     …                   …           …
953                 95     7.2   65653                1.29       61.0
962                115     6.7   88260               26.81       50.0
967                123     7.3   92378               10.14        NaN
969                150     6.5  190855               89.29        NaN
979                120     7.6  108772                3.19       70.0

[204 rows x 12 columns]
```

```python
[10]:  df = pd.read_csv("1000_movies_data.csv")
       actor=["Action","Sci-Fi"]
       df[df.Genre.isin(actor)]
```

```
[10]:      Rank              Title   Genre  \
       123   124  Boyka: Undisputed IV  Action
       183   184               Realive  Sci-Fi
       580   581  Kickboxer: Vengeance  Action
       616   617  2307: Winter's Dream  Sci-Fi

                                        Description          Director  \
       123  In the fourth installment of the fighting fran…  Todor Chapkanov
       183  Marc (Tom Hughes) is diagnosed with a disease …        Mateo Gil
       580          A kick boxer is out to avenge his brother.   John Stockwell
       616  In 2307, a future soldier is sent on a mission…      Joey Curtis

                                             Actors  Year  \
       123  Scott Adkins, Teodora Duhovnikova, Alon Aboutb…  2016
       183  Tom Hughes, Charlotte Le Bon, Oona Chaplin, Ba…  2016
       580  Dave Bautista, Alain Moussi, Gina Carano, Jean…  2016
       616  Paul Sidhu, Branden Coles, Arielle Holmes, Kel…  2016

            Runtime (Minutes)  Rating  Votes  Revenue (Millions)  Metascore
       123                 86     7.4  10428                 NaN        NaN
       183                112     5.9   1176                 NaN        NaN
```

```
580                      90     4.9    6809                   131.56     37.0
616                     101     4.0     277                    20.76     53.0
```

[11]:
```python
df = pd.read_csv("1000_movies_data.csv")
null_count = df.isnull().sum().sum()
print('Number of null values:', null_count)
```

Number of null values: 192

[12]:
```python
import pandas as pd
df=pd.read_csv("1000_movies_data.csv")
data=df[((df.Year>=2014)& (df.Year<=2016))]
data.sort_values("Revenue (Millions)",ascending=False).head(3)
```

[12]:
```
      Rank                                      Title  \
50      51  Star Wars: Episode VII - The Force Awakens
85      86                             Jurassic World
12      13                                  Rogue One


                 Genre  \
50  Action,Adventure,Fantasy
85    Action,Adventure,Sci-Fi
12    Action,Adventure,Sci-Fi


                                    Description         Director  \
50  Three decades after the defeat of the Galactic…     J.J. Abrams
85  A new theme park, built on the original site o…  Colin Trevorrow
12  The Rebel Alliance makes a risky move to steal…   Gareth Edwards


                               Actors  Year  \
50  Daisy Ridley, John Boyega, Oscar Isaac, Domhna…  2015
85  Chris Pratt, Bryce Dallas Howard, Ty Simpkins,…  2015
12  Felicity Jones, Diego Luna, Alan Tudyk, Donnie…  2016


    Runtime (Minutes)  Rating   Votes  Revenue (Millions)  Metascore
50                136     8.1  661608              936.63       81.0
85                124     7.0  455169              652.18       59.0
12                133     7.9  323118              532.17       65.0
```

[13]:
```python
import pandas as pd
df=pd.read_csv("1000_movies_data.csv")
df[(df['Genre']==("Action,Sci-Fi"))]
```

[13]:
```
      Rank          Title           Genre  \
76      77  The Avengers  Action,Sci-Fi
446    447          Dredd  Action,Sci-Fi
766    767   Ender's Game  Action,Sci-Fi
```

```
                                     Description        Director  \
76     Earth's mightiest heroes must come together an…   Joss Whedon
446    In a violent, futuristic city where the police…  Pete Travis
766    Young Ender Wiggin is recruited by the Interna…    Gavin Hood

                                         Actors  Year  \
76     Robert Downey Jr., Chris Evans, Scarlett Johan…  2012
446    Karl Urban, Olivia Thirlby, Lena Headey, Rache…  2012
766    Harrison Ford, Asa Butterfield, Hailee Steinfe…  2013

      Runtime (Minutes)  Rating     Votes  Revenue (Millions)  Metascore
76                  143     8.1   1045588              623.28       69.0
446                  95     7.1    213764               13.40       59.0
766                 114     6.7    194236               61.66        NaN
```

[29]:
```python
import pandas as pd
df=pd.read_csv("1000_movies_data.csv")
df[(df['Actors'].str.contains("Will Smith")) & (df['Rating']>7.5)].head(3)
```

[29]:
```
      Rank                  Title            Genre  \
640    641  The Pursuit of Happyness  Biography,Drama
684    685              Seven Pounds     Drama,Romance

                                     Description          Director  \
640    A struggling salesman takes custody of his son…  Gabriele Muccino
684    A man with a fateful secret embarks on an extr…  Gabriele Muccino

                                         Actors  Year  \
640    Will Smith, Thandie Newton, Jaden Smith, Brian…  2006
684    Will Smith, Rosario Dawson, Woody Harrelson,Mi…  2008

      Runtime (Minutes)  Rating     Votes  Revenue (Millions)  Metascore
640                 117     8.0    361105              162.59       64.0
684                 123     7.7    245144               69.95       36.0
```

[ ]: