```
url = "https://github.com/fivethirtyeight/data/blob/master/star-wars-
survey/StarWars.csv"
import requests
response = requests.get(url)
response
<Response [200]>
dir(response)
['__attrs__',
  __bool__',
__class__',
 '__class__',
'__delattr__',
'__dict__',
 __dir__',
'__doc__',
    _doc___',
_enter___',
 '__eq__'
   _exit__',
_exit__',
_format__',
    ge',
    _getattribute___',
    _getstate__',
 '__gt__',
'__hash__',
    _init__',
    _init_subclass__',
 '<u>_</u>iter__',
 '__le__',
'__lt__',
    ___module__',
    _ne__'
    _ne___',
_new___',
 '__nonzero__',
'__reduce__',
    _reduce_ex__',
    _repr__',
 '__setattr__'
 __setstate__'
    _sizeof__',
    __str__',
 '_subclasshook_',
 '_weakref__',
 '_content',
 '_content_consumed',
 '_next',
 'apparent_encoding',
```

```
'close',
 'connection',
 'content',
 'cookies',
 'elapsed',
 'encoding',
 'headers',
 'history',
 'is permanent redirect',
 'is redirect',
 'iter content',
 'iter lines',
 'json',
 'links',
 'next',
 'ok',
 'raise for status',
 'raw',
 'reason',
 'request',
 'status code',
 'text',
 'url'l
response.json().keys()
dict keys(['payload', 'title'])
data = response.json()['payload']['blob']['rawLines']
data[0]
'RespondentID, Have you seen any of the 6 films in the Star Wars
franchise?,Do you consider yourself to be a fan of the Star Wars film
franchise?, Which of the following Star Wars films have you seen?
Please select all that apply.,,,,,,Please rank the Star Wars films in
order of preference with 1 being your favorite film in the franchise
and 6 being your least favorite film.,,,,, "Please state whether you
view the following characters favorably, unfavorably, or are
unfamiliar with him/her.",,,,,,,,,Which character shot first?,Are
you familiar with the Expanded Universe?, Do you consider yourself to
be a fan of the Expanded Universe? (Exp., Do you consider yourself to be a
fan of the Star Trek franchise?, Gender, Age, Household
Income, Education, Location (Census Region)'
data[1]
',Response,Response,Star Wars: Episode I The Phantom Menace,Star
Wars: Episode II Attack of the Clones, Star Wars: Episode III Revenge
of the Sith, Star Wars: Episode IV A New Hope, Star Wars: Episode V The
Empire Strikes Back, Star Wars: Episode VI Return of the Jedi, Star
```

Wars: Episode I The Phantom Menace, Star Wars: Episode II Attack of the Clones, Star Wars: Episode III Revenge of the Sith, Star Wars: Episode IV A New Hope, Star Wars: Episode V The Empire Strikes Back, Star Wars: Episode VI Return of the Jedi, Han Solo, Luke Skywalker, Princess Leia Organa, Anakin Skywalker, Obi Wan Kenobi, Emperor Palpatine, Darth Vader, Lando Calrissian, Boba Fett, C-3PO, R2 D2, Jar Jar Binks, Padme

Amidala, Yoda, Response, R

```
len(data)

1188

# with open("StarWars.csv", "w") as f:
    f.write(data[0])

# with open("StarWars.csv", "a") as f:
    f.write(data[1])

# with open("StarWars.csv", "a") as f:
    f.write(data[2])

# with open("StarWars.csv", "w") as f:
    f.write(data[0])

# with open("StarWars.csv", "a") as f:
    f.write(data[0])

# with open("StarWars.csv", "a") as f:
    f.writelines(row)

import pandas as pd
```

```
with open("star.csv", "w") as f:
    for row in data:
        f.write(row+ "\n")
import pandas as pd
```

data[0]

```
star = pd.read_csv("star.csv", encoding = "windows-1251")
star
      RespondentID
0
               NaN \
1
      3.292880e+09
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
0
                                                 Response
1
                                                      Yes
2
                                                       No
3
                                                      Yes
4
                                                      Yes
1182
                                                      Yes
1183
                                                      Yes
1184
                                                      No
                                                      Yes
1185
1186
                                                      Yes
     Do you consider yourself to be a fan of the Star Wars film
franchise?
0
                                                 Response
\
1
                                                      Yes
                                                      NaN
2
                                                       No
                                                      Yes
1182
                                                      Yes
1183
                                                      Yes
                                                      NaN
1184
1185
                                                      Yes
```

1186 No

```
Which of the following Star Wars films have you seen? Please
select all that apply.
               Star Wars: Episode I The Phantom Menace
\
1
               Star Wars: Episode I The Phantom Menace
2
                                                    NaN
3
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
1182
1183
               Star Wars: Episode I The Phantom Menace
1184
                                                    NaN
1185
               Star Wars: Episode I The Phantom Menace
1186
               Star Wars: Episode I The Phantom Menace
                                       Unnamed: 4
      Star Wars: Episode II Attack of the Clones
      Star Wars: Episode II Attack of the Clones
1
2
3
     Star Wars: Episode II
                            Attack of the Clones
4
     Star Wars: Episode II
                            Attack of the Clones
                            Attack of the Clones
1182
     Star Wars: Episode II
     Star Wars: Episode II
1183
                            Attack of the Clones
1184
                                              NaN
1185
     Star Wars: Episode II
                            Attack of the Clones
1186 Star Wars: Episode II Attack of the Clones
                                       Unnamed: 5
      Star Wars: Episode III
                              Revenge of the Sith
0
     Star Wars: Episode III
1
                              Revenge of the Sith
2
3
      Star Wars: Episode III
                              Revenge of the Sith
4
     Star Wars: Episode III
                              Revenge of the Sith
1182
      Star Wars: Episode III
                              Revenge of the Sith
1183 Star Wars: Episode III
                              Revenge of the Sith
```

```
1184
                                               NaN
      Star Wars: Episode III Revenge of the Sith
1185
1186
                                               NaN
                             Unnamed: 6
0
      Star Wars: Episode IV
                             A New Hope
1
      Star Wars: Episode IV
                             A New Hope
2
                                     NaN
3
                                     NaN
4
      Star Wars: Episode IV
                             A New Hope
. . .
     Star Wars: Episode IV
1182
                             A New Hope
      Star Wars: Episode IV
1183
                             A New Hope
1184
                                     NaN
1185
      Star Wars: Episode IV
                            A New Hope
1186
                                    NaN
                                         Unnamed: 7
      Star Wars: Episode V The Empire Strikes Back \
1
      Star Wars: Episode V The Empire Strikes Back
2
                                                NaN
3
                                                NaN
4
      Star Wars: Episode V The Empire Strikes Back
      Star Wars: Episode V The Empire Strikes Back
1182
1183
      Star Wars: Episode V The Empire Strikes Back
1184
      Star Wars: Episode V The Empire Strikes Back
1185
1186 Star Wars: Episode V The Empire Strikes Back
                                     Unnamed: 8
      Star Wars: Episode VI Return of the Jedi
0
1
      Star Wars: Episode VI Return of the Jedi
2
3
                                            NaN
4
      Star Wars: Episode VI Return of the Jedi
1182
      Star Wars: Episode VI Return of the Jedi
1183
      Star Wars: Episode VI Return of the Jedi
1184
1185
      Star Wars: Episode VI Return of the Jedi
1186 Star Wars: Episode VI Return of the Jedi
     Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.
               Star Wars: Episode I The Phantom Menace
/
1
                                                       3
```

```
2
                                                       NaN
3
                                                         1
                                                         5
1182
                                                         5
1183
1184
                                                       NaN
1185
1186
                                                         6
                 Unnamed: 28
                                    Which character shot first?
0
                        Yoda
                                                        Response \
1
             Very favorably
                              I don't understand this question
2
3
           Unfamiliar (N/A)
                              I don't understand this question
4
             Very favorably
                              I don't understand this question
      . . .
             Very favorably
1182
                                                             Han
             Very favorably
                              I don't understand this question
1183
1184
                         NaN
1185
             Very favorably
1186
           Very unfavorably I don't understand this question
     Are you familiar with the Expanded Universe?
0
                                           Response
1
                                                Yes
2
                                                 NaN
3
                                                  No
4
                                                  No
1182
                                                  No
1183
                                                  No
1184
                                                 NaN
1185
                                                  No
1186
                                                  No
     Do you consider yourself to be a fan of the Expanded Universe?Њж
0
                                                  Response
\
1
                                                        No
```

2			NaN
3			NaN
4			NaN
1182			NaN
1183			NaN
1184			NaN
1185			NaN
1186			NaN
	Do you con	sider your	self to be a fan of the Star Trek franchise?
0			Response
ì			No
2			Yes
3			No
4			Yes
1182			Yes
1183			Yes
1184			No
1185			Yes
1186			No
	6		
0 1 2 3 4	Gender Response Male Male Male	Age Response 18-29 18-29 18-29	Household Income Response \ NaN \$0 - \$24,999 \$0 - \$24,999 \$100,000 - \$149,999

```
1182
        Female
                    18-29
                                   $0 - $24,999
        Female
1183
                    30-44
                             $50,000 - $99,999
1184
        Female
                    30-44
                             $50,000 - $99,999
                           $100,000 - $149,999
1185
        Female
                    45-60
1186
        Female
                   > 60
                             $50,000 - $99,999
                              Education Location (Census Region)
                               Response
                                                          Response
1
                     High school degree
                                                   South Atlantic
2
                        Bachelor degree
                                               West South Central
3
                     High school degree
                                               West North Central
4
      Some college or Associate degree
                                               West North Central
      Some college or Associate degree
                                               East North Central
1182
1183
                        Bachelor degree
                                                          Mountain
1184
                        Bachelor degree
                                                  Middle Atlantic
1185
      Some college or Associate degree
                                               East North Central
1186
                        Graduate degree
                                                           Pacific
[1187 rows x 38 columns]
star.drop(0)
      RespondentID
1
      3.292880e+09
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
1182
      3.288389e+09
1183
     3.288379e+09
     3.288375e+09
1184
1185
     3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                       Yes
2
                                                       No
3
                                                       Yes
4
                                                       Yes
5
                                                       Yes
. . .
                                                       . . .
1182
                                                       Yes
1183
                                                       Yes
1184
                                                       No
1185
                                                       Yes
1186
                                                       Yes
     Do you consider yourself to be a fan of the Star Wars film
```

franchise?	Yes
\ 2	NaN
3	No
4	Yes
5	Yes
1182	Yes
1183	Yes
1184	NaN
1185	Yes
1186	No
Which of select all that the select all the select	Star Wars: Episode I The Phantom Menace NaN Star Wars: Episode I The Phantom Menace Star Wars: Episode I The Phantom Menace Star Wars: Episode I The Phantom Menace NaN
1185	Star Wars: Episode I The Phantom Menace
1186	Star Wars: Episode I The Phantom Menace
1 Star Wa	Unnamed: 4 ars: Episode II Attack of the Clones \

```
2
                                               NaN
3
      Star Wars: Episode II
                             Attack of the Clones
4
      Star Wars: Episode II
                             Attack of the Clones
      Star Wars: Episode II
                              Attack of the Clones
1182
      Star Wars: Episode II
                              Attack of the Clones
1183
      Star Wars: Episode II
                             Attack of the Clones
1184
                                               NaN
1185
     Star Wars: Episode II
                              Attack of the Clones
1186 Star Wars: Episode II
                             Attack of the Clones
                                        Unnamed: 5
1
      Star Wars: Episode III
                              Revenge of the Sith
2
3
      Star Wars: Episode III
                               Revenge of the Sith
4
      Star Wars: Episode III
                              Revenge of the Sith
5
      Star Wars: Episode III
                               Revenge of the Sith
1182
      Star Wars: Episode III
                               Revenge of the Sith
1183
      Star Wars: Episode III
                              Revenge of the Sith
1184
                                               NaN
1185
      Star Wars: Episode III Revenge of the Sith
1186
                                               NaN
                              Unnamed: 6
1
      Star Wars: Episode IV
                              A New Hope
2
                                     NaN
3
                                     NaN
4
      Star Wars: Episode IV
                              A New Hope
5
      Star Wars: Episode IV
                             A New Hope
1182
      Star Wars: Episode IV
                              A New Hope
1183
      Star Wars: Episode IV
                              A New Hope
1184
                                     NaN
1185
      Star Wars: Episode IV
                             A New Hope
1186
                                     NaN
                                         Unnamed: 7
1
      Star Wars: Episode V The Empire Strikes Back
2
                                                NaN
3
                                                NaN
4
      Star Wars: Episode V The Empire Strikes Back
5
      Star Wars: Episode V The Empire Strikes Back
1182
      Star Wars: Episode V The Empire Strikes Back
1183
      Star Wars: Episode V The Empire Strikes Back
1184
1185
      Star Wars: Episode V The Empire Strikes Back
      Star Wars: Episode V The Empire Strikes Back
```

```
Unnamed: 8
1
      Star Wars: Episode VI Return of the Jedi \
2
                                             NaN
3
4
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
5
1182
      Star Wars: Episode VI Return of the Jedi
1183
      Star Wars: Episode VI Return of the Jedi
1184
      Star Wars: Episode VI Return of the Jedi
1185
1186 Star Wars: Episode VI Return of the Jedi
     Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.
                                                        3
/
2
                                                      NaN
3
                                                        1
                                                        5
                                                        5
                                                        5
1182
1183
1184
                                                      NaN
1185
1186
                                                        6
                                     Which character shot first?
                   Unnamed: 28
1
               Very favorably
                                I don't understand this question
2
                           NaN
                                                              NaN
3
             Unfamiliar (N/A)
                                I don't understand this question
4
               Very favorably
                                I don't understand this question
5
           Somewhat favorably
                                                           Greedo
      . . .
1182
               Very favorably
                                                              Han
1183
               Very favorably
                                I don't understand this question
1184
                           NaN
                                                              NaN
1185
               Very favorably
                                                              Han
      . . .
```

1186 Very unfavorably I don't understand this question
Are you familiar with the Expanded Universe? 1 Yes \ 2 NaN 3 No 4 No 5 Yes 1182 No 1183 No 1184 NaN 1185 No
1186 No
Do you consider yourself to be a fan of the Expanded Universe?Њж
1 No
\ 2 NaN
3 NaN
4 NaN
5 No
1182 NaN
1183 NaN
1184 NaN
1185 NaN
1186 NaN
Do you consider yourself to be a fan of the Star Trek franchise? Gender No
Male \ 2 Yes
Male 3
Male
4 Yes Male
5 No

```
Male
. . .
. . .
1182
                                                       Yes
Female
1183
                                                       Yes
Female
1184
                                                        No
Female
1185
                                                       Yes
Female
1186
                                                        No
Female
                 Household Income
                                                             Education
        Age
1
      18-29
                               NaN
                                                   High school degree
2
                     $0 - $24,999
      18-29
                                                      Bachelor degree
3
      18-29
                     $0 - $24,999
                                                   High school degree
4
      18-29
              $100,000 - $149,999
                                    Some college or Associate degree
5
      18-29
             $100,000 - $149,999
                                    Some college or Associate degree
1182
      18-29
                     $0 - $24,999
                                    Some college or Associate degree
                $50,000 - $99,999
1183
      30-44
                                                      Bachelor degree
1184
      30-44
                $50,000 - $99,999
                                                      Bachelor degree
1185
      45-60
              $100,000 - $149,999
                                    Some college or Associate degree
1186
      > 60
                $50,000 - $99,999
                                                      Graduate degree
     Location (Census Region)
1
                South Atlantic
2
           West South Central
3
           West North Central
4
           West North Central
5
           West North Central
1182
           East North Central
1183
                      Mountain
1184
               Middle Atlantic
1185
           East North Central
1186
                       Pacific
[1186 rows x 38 columns]
star
      RespondentID
0
                NaN
                    \
1
      3.292880e+09
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
```

```
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
0
                                                 Response
1
                                                      Yes
2
                                                       No
3
                                                      Yes
4
                                                      Yes
                                                      . . .
1182
                                                      Yes
1183
                                                      Yes
1184
                                                       No
1185
                                                      Yes
1186
                                                      Yes
     Do you consider yourself to be a fan of the Star Wars film
franchise?
0
                                                 Response
\
1
                                                      Yes
2
                                                      NaN
                                                       No
3
                                                      Yes
1182
                                                      Yes
1183
                                                      Yes
1184
                                                      NaN
1185
                                                      Yes
1186
                                                       No
     Which of the following Star Wars films have you seen? Please
select all that apply.
               Star Wars: Episode I The Phantom Menace
0
\
               Star Wars: Episode I The Phantom Menace
1
```

```
2
                                                     NaN
3
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
1182
1183
               Star Wars: Episode I The Phantom Menace
1184
                                                     NaN
1185
               Star Wars: Episode I The Phantom Menace
1186
               Star Wars: Episode I The Phantom Menace
                                       Unnamed: 4
0
      Star Wars: Episode II
                            Attack of the Clones
1
      Star Wars: Episode II Attack of the Clones
2
3
      Star Wars: Episode II
                            Attack of the Clones
4
      Star Wars: Episode II
                            Attack of the Clones
1182
      Star Wars: Episode II
                             Attack of the Clones
1183
      Star Wars: Episode II
                             Attack of the Clones
1184
1185
      Star Wars: Episode II
                             Attack of the Clones
1186 Star Wars: Episode II Attack of the Clones
                                        Unnamed: 5
      Star Wars: Episode III Revenge of the Sith
      Star Wars: Episode III
                              Revenge of the Sith
1
2
3
      Star Wars: Episode III
                              Revenge of the Sith
      Star Wars: Episode III
                              Revenge of the Sith
      Star Wars: Episode III
                              Revenge of the Sith
1182
1183
      Star Wars: Episode III
                              Revenge of the Sith
1184
                                               NaN
1185
      Star Wars: Episode III
                              Revenge of the Sith
1186
                                               NaN
                             Unnamed: 6
0
      Star Wars: Episode IV
                             A New Hope \
1
      Star Wars: Episode IV
                             A New Hope
2
                                    NaN
3
                                    NaN
```

```
4
      Star Wars: Episode IV A New Hope
1182
      Star Wars: Episode IV A New Hope
1183
      Star Wars: Episode IV
                             A New Hope
1184
                                    NaN
1185
      Star Wars: Episode IV
                            A New Hope
1186
                                    NaN
                                         Unnamed: 7
0
      Star Wars: Episode V The Empire Strikes Back \
1
      Star Wars: Episode V The Empire Strikes Back
2
3
                                                NaN
4
      Star Wars: Episode V The Empire Strikes Back
1182
      Star Wars: Episode V The Empire Strikes Back
      Star Wars: Episode V The Empire Strikes Back
1183
1184
                                                NaN
1185
      Star Wars: Episode V The Empire Strikes Back
1186 Star Wars: Episode V The Empire Strikes Back
                                    Unnamed: 8
      Star Wars: Episode VI Return of the Jedi \
0
1
      Star Wars: Episode VI Return of the Jedi
2
3
4
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
1182
      Star Wars: Episode VI Return of the Jedi
1183
1184
                                            NaN
1185
      Star Wars: Episode VI Return of the Jedi
1186 Star Wars: Episode VI Return of the Jedi
     Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.
0
               Star Wars: Episode I The Phantom Menace
\
                                                       3
1
                                                     NaN
                                                       1
                                                       5
1182
                                                       5
```

```
1183
                                                          4
1184
                                                        NaN
1185
                                                          6
1186
                 Unnamed: 28
                                    Which character shot first?
0
                         Yoda
                                                         Response \
1
              Very favorably
                               I don't understand this question
2
                          NaN
3
            Unfamiliar (N/A)
                               I don't understand this question
4
              Very favorably
                               I don't understand this question
      . . .
      . . .
              Very favorably
1182
                                                               Han
              Very favorably
                               I don't understand this question
1183
      . . .
1184
                          NaN
                                                              NaN
1185
              Very favorably
1186
           Very unfavorably I don't understand this question
     Are you familiar with the Expanded Universe?
0
                                            Response \
1
                                                 Yes
2
                                                 NaN
3
                                                   No
4
                                                   No
                                                  . . .
1182
                                                   No
1183
                                                  No
1184
                                                 NaN
1185
                                                   No
1186
                                                   No
     Do you consider yourself to be a fan of the Expanded Universe?Њж
0
                                                   Response
\
1
                                                         No
2
                                                        NaN
                                                        NaN
                                                        NaN
1182
                                                        NaN
```

1183				NaN
1184				NaN
1185				NaN
1186				NaN
	Do you con	sider you	rself to be a fan of th	e Star Trek franchise?
0 \				Response
ì				No
2				Yes
3				No
4				Yes
1182				Yes
1183				Yes
1184				No
1185				Yes
1186				No
0 1 2 3 4	Gender Response Male Male Male	Age Response 18-29 18-29 18-29	Household Income Response NaN \$0 - \$24,999 \$0 - \$24,999 \$100,000 - \$149,999	\
1182 1183 1184 1185 1186	Female Female Female Female Female	18-29 30-44 30-44 45-60 > 60	\$0 - \$24,999 \$50,000 - \$99,999 \$50,000 - \$99,999 \$100,000 - \$149,999 \$50,000 - \$99,999	
0 1		High	Education Location Response school degree	(Census Region) Response South Atlantic

```
2
                        Bachelor degree
                                              West South Central
3
                    High school degree
                                              West North Central
4
      Some college or Associate degree
                                              West North Central
      Some college or Associate degree
1182
                                              East North Central
1183
                       Bachelor degree
                                                         Mountain
1184
                       Bachelor degree
                                                  Middle Atlantic
1185
      Some college or Associate degree
                                              East North Central
1186
                       Graduate degree
                                                          Pacific
[1187 rows x 38 columns]
star[1:]
      RespondentID
      3.292880e+09
1
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                      Yes
2
                                                       No
3
                                                      Yes
4
                                                      Yes
5
                                                      Yes
1182
                                                      Yes
                                                      Yes
1183
1184
                                                       No
1185
                                                      Yes
1186
                                                      Yes
     Do you consider yourself to be a fan of the Star Wars film
franchise?
1
                                                      Yes
\
2
                                                      NaN
3
                                                       No
                                                      Yes
```

```
5
                                                     Yes
1182
                                                     Yes
1183
                                                     Yes
1184
                                                     NaN
1185
                                                     Yes
1186
                                                      No
     Which of the following Star Wars films have you seen? Please
select all that apply.
               Star Wars: Episode I The Phantom Menace
1
/
2
                                                     NaN
3
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
5
1182
               Star Wars: Episode I The Phantom Menace
1183
               Star Wars: Episode I The Phantom Menace
1184
                                                     NaN
1185
               Star Wars: Episode I The Phantom Menace
1186
               Star Wars: Episode I The Phantom Menace
                                       Unnamed: 4
      Star Wars: Episode II Attack of the Clones
1
2
3
                             Attack of the Clones
      Star Wars: Episode II
4
      Star Wars: Episode II
                             Attack of the Clones
5
      Star Wars: Episode II
                             Attack of the Clones
1182
      Star Wars: Episode II
                            Attack of the Clones
      Star Wars: Episode II
                            Attack of the Clones
1183
1184
1185
      Star Wars: Episode II Attack of the Clones
```

```
1186 Star Wars: Episode II Attack of the Clones
                                        Unnamed: 5
1
      Star Wars: Episode III
                               Revenge of the Sith
2
                                               NaN
3
      Star Wars: Episode III
                               Revenge of the Sith
4
      Star Wars: Episode III
                               Revenge of the Sith
5
      Star Wars: Episode III
                               Revenge of the Sith
1182
      Star Wars: Episode III
                               Revenge of the Sith
1183
      Star Wars: Episode III
                               Revenge of the Sith
1184
                                               NaN
1185
      Star Wars: Episode III Revenge of the Sith
1186
                                               NaN
                              Unnamed: 6
      Star Wars: Episode IV
1
                              A New Hope
2
                                     NaN
3
                                     NaN
      Star Wars: Episode IV
                              A New Hope
5
      Star Wars: Episode IV
                              A New Hope
1182
      Star Wars: Episode IV
                              A New Hope
      Star Wars: Episode IV
1183
                              A New Hope
1184
                                     NaN
1185
      Star Wars: Episode IV
                              A New Hope
1186
                                     NaN
                                         Unnamed: 7
1
      Star Wars: Episode V The Empire Strikes Back \
                                                NaN
3
                                                NaN
      Star Wars: Episode V The Empire Strikes Back
4
5
      Star Wars: Episode V The Empire Strikes Back
      Star Wars: Episode V The Empire Strikes Back
1182
1183
      Star Wars: Episode V The Empire Strikes Back
1184
                                                NaN
      Star Wars: Episode V The Empire Strikes Back
1185
1186 Star Wars: Episode V The Empire Strikes Back
                                     Unnamed: 8
1
      Star Wars: Episode VI Return of the Jedi
2
                                            NaN
3
                                            NaN
4
      Star Wars: Episode VI Return of the Jedi
5
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
1182
      Star Wars: Episode VI Return of the Jedi
1183
```

```
1184
                                             NaN
1185
      Star Wars: Episode VI Return of the Jedi
1186 Star Wars: Episode VI Return of the Jedi
     Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.
                                                         3
1
\
2
                                                       NaN
                                                         1
                                                         5
5
                                                         5
1182
                                                         5
1183
1184
                                                       NaN
1185
                                                         4
1186
                                                         6
                                      Which character shot first?
                   Unnamed: 28
1
                Very favorably
                                I don't understand this question \
2
                           NaN
3
             Unfamiliar (N/A)
                                I don't understand this question
4
                Very favorably
                                I don't understand this question
5
           Somewhat favorably
                                                            Greedo
      . . .
                                                               . . .
1182
                Very favorably
                                                               Han
      . . .
                                I don't understand this question
1183
               Very favorably
1184
                           NaN
                                                               NaN
1185
                Very favorably
                                                               Han
             Very unfavorably I don't understand this question
1186
     Are you familiar with the Expanded Universe?
1
                                                Yes
                                                     1
2
                                                NaN
3
                                                 No
4
                                                 No
5
                                                Yes
```

1182 1183 1184 1185 1186	No No NaN No No
Do you consider yourself to be a fan of	the Expanded Universe?Њж
1	No
2	NaN
3	NaN
4	NaN
5	No
1182	NaN
1183	NaN
1184	NaN
1185	NaN
1186	NaN
Do you consider yourself to be a fan of Gender	the Star Trek franchise?
1 Male \	No
2	Yes
Male 3	No
Male 4	Yes
Male 5	No
Male	
 1182	Yes
Female 1183	Yes
Female	
1184	No

```
Female
1185
                                                       Yes
Female
1186
                                                        No
Female
                 Household Income
                                                            Education
        Age
1
      18-29
                               NaN
                                                   High school degree
2
      18-29
                     $0 - $24,999
                                                      Bachelor degree
3
      18-29
                     $0 - $24,999
                                                   High school degree
4
      18-29
              $100,000 - $149,999
                                    Some college or Associate degree
5
      18-29
              $100,000 - $149,999
                                    Some college or Associate degree
        . . .
      18-29
1182
                     $0 - $24,999
                                    Some college or Associate degree
      30-44
1183
                $50,000 - $99,999
                                                      Bachelor degree
1184
      30-44
                $50,000 - $99,999
                                                      Bachelor degree
1185
      45-60
              $100.000 - $149.999
                                    Some college or Associate degree
1186
       > 60
                $50,000 - $99,999
                                                      Graduate degree
     Location (Census Region)
1
                South Atlantic
2
           West South Central
3
           West North Central
4
           West North Central
5
           West North Central
           East North Central
1182
1183
                      Mountain
1184
               Middle Atlantic
1185
           East North Central
1186
                       Pacific
[1186 rows x 38 columns]
df = star[1:].copy()
df
      RespondentID
1
      3.292880e+09
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
      3.288389e+09
1182
1183
      3.288379e+09
1184
      3.288375e+09
1185
      3.288373e+09
1186
      3.288373e+09
```

```
Have you seen any of the 6 films in the Star Wars franchise?
1
                                                      Yes
2
                                                       No
3
                                                      Yes
4
                                                      Yes
5
                                                      Yes
1182
                                                      Yes
1183
                                                      Yes
1184
                                                       No
1185
                                                      Yes
1186
                                                      Yes
     Do you consider yourself to be a fan of the Star Wars film
franchise?
1
                                                      Yes
\
2
                                                      NaN
3
                                                       No
                                                      Yes
                                                      Yes
1182
                                                      Yes
1183
                                                      Yes
1184
                                                      NaN
1185
                                                      Yes
1186
                                                       No
     Which of the following Star Wars films have you seen? Please
select all that apply.
1
               Star Wars: Episode I The Phantom Menace
\
2
                                                      NaN
               Star Wars: Episode I The Phantom Menace
3
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
5
```

```
Star Wars: Episode I The Phantom Menace
1182
1183
               Star Wars: Episode I The Phantom Menace
1184
                                                     NaN
1185
               Star Wars: Episode I The Phantom Menace
1186
               Star Wars: Episode I The Phantom Menace
                                        Unnamed: 4
1
      Star Wars: Episode II Attack of the Clones
2
3
      Star Wars: Episode II
                             Attack of the Clones
      Star Wars: Episode II
                             Attack of the Clones
5
                             Attack of the Clones
      Star Wars: Episode II
1182
      Star Wars: Episode II
                             Attack of the Clones
1183
      Star Wars: Episode II
                             Attack of the Clones
1184
                                               NaN
1185
     Star Wars: Episode II
                             Attack of the Clones
1186 Star Wars: Episode II Attack of the Clones
                                        Unnamed: 5
      Star Wars: Episode III Revenge of the Sith
2
3
      Star Wars: Episode III
                              Revenge of the Sith
4
      Star Wars: Episode III
                              Revenge of the Sith
5
      Star Wars: Episode III
                              Revenge of the Sith
1182
      Star Wars: Episode III
                              Revenge of the Sith
1183
      Star Wars: Episode III
                              Revenge of the Sith
1184
                                               NaN
1185
      Star Wars: Episode III Revenge of the Sith
1186
                                               NaN
                             Unnamed: 6
1
      Star Wars: Episode IV
                             A New Hope
2
                                     NaN
3
                                     NaN
4
      Star Wars: Episode IV
                             A New Hope
5
      Star Wars: Episode IV
                             A New Hope
                             A New Hope
1182
      Star Wars: Episode IV
1183
      Star Wars: Episode IV
                             A New Hope
1184
                                     NaN
      Star Wars: Episode IV A New Hope
1185
```

```
1186
                                    NaN
                                        Unnamed: 7
1
      Star Wars: Episode V The Empire Strikes Back \
2
3
                                                NaN
      Star Wars: Episode V The Empire Strikes Back
4
5
      Star Wars: Episode V The Empire Strikes Back
      Star Wars: Episode V The Empire Strikes Back
1182
1183
      Star Wars: Episode V The Empire Strikes Back
1184
      Star Wars: Episode V The Empire Strikes Back
1185
1186 Star Wars: Episode V The Empire Strikes Back
                                    Unnamed: 8
1
      Star Wars: Episode VI Return of the Jedi
2
3
      Star Wars: Episode VI Return of the Jedi
5
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
1182
1183
      Star Wars: Episode VI Return of the Jedi
1184
1185
      Star Wars: Episode VI Return of the Jedi
1186 Star Wars: Episode VI Return of the Jedi
     Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.
1
                                                       3
\
2
                                                     NaN
3
                                                       1
                                                       5
                                                       5
1182
1183
1184
                                                     NaN
1185
                                                       4
```

1186 6 Unnamed: 28 Which character shot first? 1 Very favorably I don't understand this question 2 NaN NaN 3 Unfamiliar (N/A) I don't understand this question 4 I don't understand this question Very favorably 5 Somewhat favorably Greedo 1182 Very favorably Han I don't understand this question 1183 Very favorably . . . 1184 1185 Very favorably Han 1186 Very unfavorably I don't understand this question Are you familiar with the Expanded Universe? 1 Yes 2 NaN 3 No 4 No 5 Yes . . . 1182 No 1183 No 1184 NaN 1185 No 1186 No Do you consider yourself to be a fan of the Expanded Universe?Њж 1 No \ 2 NaN 3 NaN NaN No 1182 NaN 1183 NaN 1184 NaN

NaN

1185

1186 NaN

```
Do you consider yourself to be a fan of the Star Trek franchise?
Gender
                                                       No
Male \
2
                                                       Yes
Male
3
                                                       No
Male
                                                       Yes
Male
5
                                                       No
Male
. . .
. . .
1182
                                                       Yes
Female
1183
                                                       Yes
Female
1184
                                                       No
Female
1185
                                                      Yes
Female
1186
                                                       No
Female
        Age
                Household Income
                                                            Education
1
      18-29
                                                  High school degree \
                              NaN
2
      18-29
                     $0 - $24,999
                                                     Bachelor degree
3
                     $0 - $24,999
      18-29
                                                  High school degree
4
             $100,000 - $149,999
      18-29
                                   Some college or Associate degree
5
      18-29 $100,000 - $149,999
                                   Some college or Associate degree
. . .
       . . .
1182 18-29
                     $0 - $24,999
                                   Some college or Associate degree
1183
     30-44
               $50,000 - $99,999
                                                     Bachelor degree
               $50,000 - $99,999
1184
      30-44
                                                     Bachelor degree
1185 45-60
             $100,000 - $149,999
                                   Some college or Associate degree
               $50,000 - $99,999
1186
     > 60
                                                     Graduate degree
     Location (Census Region)
1
               South Atlantic
2
           West South Central
3
           West North Central
4
           West North Central
5
           West North Central
           East North Central
1182
```

```
1183
                       Mountain
               Middle Atlantic
1184
1185
            East North Central
1186
                        Pacific
[1186 rows x 38 columns]
df.columns
Index(['RespondentID',
        'Have you seen any of the 6 films in the Star Wars franchise?',
        'Do you consider yourself to be a fan of the Star Wars film
franchise?',
        'Which of the following Star Wars films have you seen? Please
select all that apply.',
        'Unnamed: 4', 'Unnamed: 5', 'Unnamed: 6', 'Unnamed: 7',
'Unnamed: 8',
        'Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.',
        'Unnamed: 10', 'Unnamed: 11', 'Unnamed: 12', 'Unnamed: 13',
        'Unnamed: 14'.
       'Please state whether you view the following characters
favorably, unfavorably, or are unfamiliar with him/her.',
        'Unnamed: 16', 'Unnamed: 17', 'Unnamed: 18', 'Unnamed: 19',
       'Unnamed: 20', 'Unnamed: 21', 'Unnamed: 22', 'Unnamed: 23', 'Unnamed: 24', 'Unnamed: 25', 'Unnamed: 26', 'Unnamed: 27', 'Unnamed: 28', 'Which character shot first?',
        'Are you familiar with the Expanded Universe?',
        'Do you consider yourself to be a fan of the Expanded Universe?
Њж',
        'Do you consider yourself to be a fan of the Star Trek
franchise?',
        'Gender', 'Age', 'Household Income', 'Education',
        'Location (Census Region)'],
      dtype='object')
df[['RespondentID',
        'Have you seen any of the 6 films in the Star Wars franchise?',
        'Do you consider yourself to be a fan of the Star Wars film
franchise?']]
      RespondentID
1
      3.292880e+09 \
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
1182 3.288389e+09
```

```
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                      Yes
2
                                                       No
3
                                                       Yes
4
                                                      Yes
5
                                                      Yes
1182
                                                      Yes
1183
                                                       Yes
1184
                                                       No
1185
                                                      Yes
1186
                                                      Yes
     Do you consider yourself to be a fan of the Star Wars film
franchise?
                                                      Yes
1
2
                                                      NaN
3
                                                       No
                                                      Yes
5
                                                      Yes
                                                       . . .
1182
                                                      Yes
1183
                                                      Yes
1184
                                                      NaN
1185
                                                      Yes
1186
                                                       No
[1186 rows x 3 columns]
df.iloc[:,0:3]
      RespondentID
1
      3.292880e+09 \
2
      3.292880e+09
3
      3.292765e+09
```

```
4
      3.292763e+09
5
      3.292731e+09
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                      Yes
2
                                                       No
3
                                                      Yes
4
                                                      Yes
5
                                                      Yes
. . .
                                                      . . .
1182
                                                      Yes
                                                      Yes
1183
1184
                                                      No
1185
                                                      Yes
1186
                                                      Yes
     Do you consider yourself to be a fan of the Star Wars film
franchise?
                                                      Yes
2
                                                      NaN
3
                                                       No
                                                      Yes
                                                      Yes
5
1182
                                                      Yes
1183
                                                      Yes
1184
                                                      NaN
1185
                                                      Yes
1186
                                                       No
[1186 rows x 3 columns]
cleaned = df.iloc[:,0:3]
```

```
mapping = {"Yes":True, "No":False}
cleaned["Have you seen any of the 6 films in the Star Wars
franchise?"].map(mapping)
1
         True
2
        False
3
         True
4
         True
5
         True
        . . .
1182
         True
1183
         True
1184
        False
1185
         True
1186
         True
Name: Have you seen any of the 6 films in the Star Wars franchise?,
Length: 1186, dtype: bool
# cleaned.iloc[:,1] = cleaned["Have you seen any of the 6 films in the
Star Wars franchise?"].map(mapping)
cleaned.iloc[:,1] = cleaned.iloc[:,1].map(mapping)
cleaned
      RespondentID
1
      3.292880e+09 \
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                    True
2
                                                    False
3
                                                    True
4
                                                    True
5
                                                    True
. . .
1182
                                                    True
1183
                                                    True
1184
                                                    False
1185
                                                    True
1186
                                                    True
```

```
Do you consider yourself to be a fan of the Star Wars film
franchise?
1
                                                     Yes
                                                     NaN
2
3
                                                      No
                                                     Yes
5
                                                     Yes
1182
                                                     Yes
1183
                                                     Yes
1184
                                                     NaN
1185
                                                     Yes
1186
                                                      No
[1186 rows x 3 columns]
cleaned.iloc[:,2] = cleaned.iloc[:,2].map(mapping)
cleaned
      RespondentID
1
      3.292880e+09 \
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                    True
2
                                                   False
3
                                                    True
4
                                                    True
5
                                                    True
```

```
1182
                                                     True
1183
                                                    True
1184
                                                    False
                                                    True
1185
1186
                                                     True
     Do you consider yourself to be a fan of the Star Wars film
franchise?
                                                     True
2
                                                      NaN
3
                                                    False
                                                    True
5
                                                     True
1182
                                                     True
1183
                                                     True
1184
                                                      NaN
1185
                                                    True
1186
                                                    False
[1186 rows x 3 columns]
renamed = ["id", "seen any", "fan"]
cleaned.columns
Index(['RespondentID',
       'Have you seen any of the 6 films in the Star Wars franchise?',
       'Do you consider yourself to be a fan of the Star Wars film
franchise?'j,
      dtype='object')
rename dict = dict(zip(cleaned.columns, renamed))
rename dict
{'RespondentID': 'id',
 'Have you seen any of the 6 films in the Star Wars franchise?':
'seen any',
```

```
'Do you consider yourself to be a fan of the Star Wars film
franchise?': 'fan'}
cleaned.rename(rename dict, axis = 1)
                id seen any
                                fan
1
      3.292880e+09
                        True
                               True
2
      3.292880e+09
                       False
                                NaN
3
      3.292765e+09
                       True
                              False
4
      3.292763e+09
                        True
                               True
5
      3.292731e+09
                        True
                               True
                         . . .
                               . . .
      3.288389e+09
1182
                        True
                               True
1183
     3.288379e+09
                        True
                               True
1184 3.288375e+09
                       False
                                NaN
1185
      3.288373e+09
                        True
                               True
1186 3.288373e+09
                        True False
[1186 rows x 3 columns]
cleaned
      RespondentID
      3.292880e+09 \
1
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
      3.288389e+09
1182
      3.288379e+09
1183
1184 3.288375e+09
      3.288373e+09
1185
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                     True
                                                                      /
2
                                                    False
3
                                                     True
4
                                                     True
5
                                                     True
                                                       . . .
1182
                                                     True
1183
                                                     True
1184
                                                    False
                                                     True
1185
1186
                                                     True
     Do you consider yourself to be a fan of the Star Wars film
franchise?
```

```
1
                                                     True
2
                                                      NaN
3
                                                    False
                                                     True
5
                                                     True
1182
                                                     True
                                                     True
1183
1184
                                                      NaN
1185
                                                     True
1186
                                                    False
[1186 rows x 3 columns]
cleaned.columns = renamed
cleaned
                id seen_any
                                fan
1
      3.292880e+09
                       True
                               True
2
      3.292880e+09
                       False
                                NaN
3
      3.292765e+09
                       True
                              False
4
      3.292763e+09
                       True
                              True
5
      3.292731e+09
                       True
                               True
                         . . .
1182 3.288389e+09
                        True
                               True
1183 3.288379e+09
                       True
                               True
1184 3.288375e+09
                       False
                               NaN
1185
     3.288373e+09
                       True
                               True
1186 3.288373e+09
                       True False
[1186 rows x 3 columns]
cleaned["seen_any"].value_counts()
seen any
True
         936
False
         250
Name: count, dtype: int64
cleaned.iloc[:,1:]
```

```
seen any
                 fan
1
         True
                True
2
        False
                 NaN
3
         True
               False
4
         True
               True
5
         True
                True
          . . .
                 . . .
1182
         True
                True
1183
         True
                True
1184
        False
                 NaN
1185
         True
                True
1186
         True
               False
[1186 rows x 2 columns]
cleaned.iloc[:,1:].value_counts()
seen any
          fan
True
          True
                    552
          False
                    284
Name: count, dtype: int64
cleaned.iloc[:,1:].apply(pd.value_counts, axis = "index")
       seen_any
                 fan
True
            936
                 552
False
            250 284
df
      RespondentID
1
      3.292880e+09 \
2
      3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                      Yes
2
                                                       No
3
                                                      Yes
4
                                                      Yes
5
                                                      Yes
                                                      . . .
1182
                                                      Yes
```

1183 1184 1185 1186					Yes No Yes Yes
Do you co franchise? 1	nsider your	self to be	a far	of the	Star Wars film Yes
2 3					NaN No
4					Yes
5					Yes
1182					Yes
1183					Yes
1184					NaN
1185					Yes
1186					No
Which of select all tha		_			you seen? Please
\ 2	Star wars.	Lpisoue i	THE	rnancom	NaN
3	Star Wars:	Episode I	The	Phantom	Menace
4	Star Wars:	Episode I	The	Phantom	Menace
5	Star Wars:	Episode I	The	Phantom	Menace
1182	Star Wars:	Episode I	The	Phantom	Menace
1183	Star Wars:	Episode I	The	Phantom	Menace
1184					NaN
1185	Star Wars:	Episode I	The	Phantom	Menace

```
1186
               Star Wars: Episode I The Phantom Menace
                                        Unnamed: 4
      Star Wars: Episode II
                              Attack of the Clones
1
2
                                                NaN
3
      Star Wars: Episode II
                              Attack of the Clones
      Star Wars: Episode II
                              Attack of the Clones
5
      Star Wars: Episode II
                              Attack of the Clones
      Star Wars: Episode II
                              Attack of the Clones
1182
1183
      Star Wars: Episode II
                              Attack of the Clones
1184
1185
      Star Wars: Episode II
                              Attack of the Clones
1186 Star Wars: Episode II
                              Attack of the Clones
                                        Unnamed: 5
      Star Wars: Episode III
                               Revenge of the Sith
2
                                                NaN
3
      Star Wars: Episode III
                               Revenge of the Sith
                               Revenge of the Sith
4
      Star Wars: Episode III
5
      Star Wars: Episode III
                               Revenge of the Sith
1182
      Star Wars: Episode III
                               Revenge of the Sith
1183
      Star Wars: Episode III
                               Revenge of the Sith
1184
                                                NaN
1185
      Star Wars: Episode III Revenge of the Sith
1186
                                                NaN
                              Unnamed: 6
1
      Star Wars: Episode IV
                              A New Hope
2
                                     NaN
3
                                     NaN
4
      Star Wars: Episode IV
                              A New Hope
5
      Star Wars: Episode IV
                              A New Hope
1182
      Star Wars: Episode IV
                              A New Hope
1183
      Star Wars: Episode IV
                              A New Hope
1184
                                     NaN
1185
      Star Wars: Episode IV
                              A New Hope
1186
                                     NaN
                                         Unnamed: 7
1
      Star Wars: Episode V The Empire Strikes Back
2
                                                 NaN
3
                                                 NaN
4
      Star Wars: Episode V The Empire Strikes Back
5
      Star Wars: Episode V The Empire Strikes Back
```

```
1182
      Star Wars: Episode V The Empire Strikes Back
1183 Star Wars: Episode V The Empire Strikes Back
1184
      Star Wars: Episode V The Empire Strikes Back
1185
1186 Star Wars: Episode V The Empire Strikes Back
                                    Unnamed: 8
      Star Wars: Episode VI Return of the Jedi \
1
2
3
                                           NaN
4
      Star Wars: Episode VI Return of the Jedi
5
      Star Wars: Episode VI Return of the Jedi
1182
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
1183
1184
1185
      Star Wars: Episode VI Return of the Jedi
1186 Star Wars: Episode VI Return of the Jedi
     Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.
                                                      3
1
\
2
                                                    NaN
                                                       1
                                                       5
1182
                                                      5
1183
1184
                                                    NaN
1185
1186
                  Unnamed: 28
                                    Which character shot first?
1
               Very favorably
                               I don't understand this question \
2
                          NaN
3
             Unfamiliar (N/A)
                               I don't understand this question
4
               Very favorably I don't understand this question
```

```
5
           Somewhat favorably
                                                            Greedo
      . . .
1182
                Very favorably
                                                               Han
               Very favorably
                                I don't understand this question
1183
1184
               Very favorably
1185
                                                               Han
             Very unfavorably I don't understand this question
1186 ...
     Are you familiar with the Expanded Universe?
1
                                                Yes \
2
                                                 NaN
3
                                                  No
4
                                                  No
5
                                                 Yes
                                                 . . .
1182
                                                  No
1183
                                                  No
1184
                                                 NaN
1185
                                                  No
1186
                                                  No
     Do you consider yourself to be a fan of the Expanded Universe?Њж
1
                                                        No
\
2
                                                       NaN
3
                                                       NaN
                                                       NaN
5
                                                        No
1182
                                                       NaN
                                                       NaN
1183
                                                       NaN
1184
1185
                                                       NaN
1186
                                                       NaN
     Do you consider yourself to be a fan of the Star Trek franchise?
Gender
1
                                                        No
Male \
                                                       Yes
```

```
Male
                                                        No
3
Male
                                                       Yes
4
Male
                                                        No
Male
. . .
1182
                                                       Yes
Female
1183
                                                       Yes
Female
1184
                                                        No
Female
1185
                                                       Yes
Female
1186
                                                        No
Female
                 Household Income
                                                             Education
        Age
1
      18-29
                               NaN
                                                   High school degree
2
      18-29
                     $0 - $24,999
                                                      Bachelor degree
3
                     $0 - $24,999
                                                   High school degree
      18-29
4
             $100,000 - $149,999
      18-29
                                    Some college or Associate degree
5
      18-29
             $100,000 - $149,999
                                    Some college or Associate degree
1182
      18-29
                     $0 - $24,999
                                    Some college or Associate degree
1183
     30-44
                $50,000 - $99,999
                                                      Bachelor degree
                $50,000 - $99,999
1184
      30-44
                                                      Bachelor degree
                                    Some college or Associate degree
1185
      45-60
              $100,000 - $149,999
                $50,000 - $99,999
1186
       > 60
                                                      Graduate degree
     Location (Census Region)
1
                South Atlantic
2
           West South Central
3
           West North Central
4
           West North Central
5
           West North Central
. . .
           East North Central
1182
1183
                      Mountain
1184
               Middle Atlantic
1185
           East North Central
1186
                       Pacific
[1186 rows x 38 columns]
df.iloc[:,3:9]
```

```
Which of the following Star Wars films have you seen? Please
select all that apply.
1
               Star Wars: Episode I The Phantom Menace
/
2
                                                     NaN
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
1182
1183
               Star Wars: Episode I The Phantom Menace
1184
                                                     NaN
1185
               Star Wars: Episode I The Phantom Menace
1186
               Star Wars: Episode I The Phantom Menace
                                       Unnamed: 4
      Star Wars: Episode II Attack of the Clones
2
3
      Star Wars: Episode II
                             Attack of the Clones
4
      Star Wars: Episode II
                             Attack of the Clones
5
      Star Wars: Episode II
                             Attack of the Clones
1182
      Star Wars: Episode II
                             Attack of the Clones
      Star Wars: Episode II
1183
                             Attack of the Clones
1184
                                               NaN
1185
     Star Wars: Episode II
                             Attack of the Clones
1186 Star Wars: Episode II Attack of the Clones
                                       Unnamed: 5
      Star Wars: Episode III Revenge of the Sith
1
2
3
      Star Wars: Episode III
                              Revenge of the Sith
4
      Star Wars: Episode III
                              Revenge of the Sith
5
                              Revenge of the Sith
      Star Wars: Episode III
. . .
                              Revenge of the Sith
1182
      Star Wars: Episode III
1183
      Star Wars: Episode III
                              Revenge of the Sith
1184
1185
      Star Wars: Episode III
                              Revenge of the Sith
1186
                                               NaN
```

```
Unnamed: 6
      Star Wars: Episode IV
                             A New Hope \
1
2
                                     NaN
3
                                     NaN
4
      Star Wars: Episode IV
                              A New Hope
5
      Star Wars: Episode IV
                             A New Hope
1182
      Star Wars: Episode IV
                              A New Hope
      Star Wars: Episode IV
1183
                              A New Hope
1184
                                     NaN
1185
      Star Wars: Episode IV
                             A New Hope
1186
                                     NaN
                                         Unnamed: 7
1
      Star Wars: Episode V The Empire Strikes Back
2
3
                                                NaN
4
      Star Wars: Episode V The Empire Strikes Back
5
      Star Wars: Episode V The Empire Strikes Back
. . .
      Star Wars: Episode V The Empire Strikes Back
1182
1183
      Star Wars: Episode V The Empire Strikes Back
1184
1185
      Star Wars: Episode V The Empire Strikes Back
1186
      Star Wars: Episode V The Empire Strikes Back
                                     Unnamed: 8
1
      Star Wars: Episode VI Return of the Jedi
2
3
                                            NaN
4
      Star Wars: Episode VI Return of the Jedi
5
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
1182
      Star Wars: Episode VI Return of the Jedi
1183
1184
      Star Wars: Episode VI Return of the Jedi
1185
1186
      Star Wars: Episode VI Return of the Jedi
[1186 rows x 6 columns]
seen = df.iloc[:,3:9].copy()
seen.columns = ["seen episode1", "seen episode2",
                "seen episode3", "seen episode4",
                "seen episode5", "seen episode6"]
seen
```

```
seen episodel
1
      Star Wars: Episode I
                             The Phantom Menace
2
                                             NaN
3
                             The Phantom Menace
      Star Wars: Episode I
      Star Wars: Episode I
                             The Phantom Menace
5
      Star Wars: Episode I
                             The Phantom Menace
1182
                             The Phantom Menace
      Star Wars: Episode I
1183
      Star Wars: Episode I
                             The Phantom Menace
1184
                                            NaN
1185
      Star Wars: Episode I
                             The Phantom Menace
1186
    Star Wars: Episode I
                             The Phantom Menace
                                     seen episode2
      Star Wars: Episode II
                             Attack of the Clones
2
                                                NaN
3
      Star Wars: Episode II
                              Attack of the Clones
4
      Star Wars: Episode II
                              Attack of the Clones
5
                              Attack of the Clones
      Star Wars: Episode II
1182
      Star Wars: Episode II
                              Attack of the Clones
1183
      Star Wars: Episode II
                              Attack of the Clones
1184
                                                NaN
1185
                              Attack of the Clones
      Star Wars: Episode II
1186 Star Wars: Episode II
                              Attack of the Clones
                                     seen episode3
1
      Star Wars: Episode III
                               Revenge of the Sith
2
                                                NaN
3
      Star Wars: Episode III
                               Revenge of the Sith
4
      Star Wars: Episode III
                               Revenge of the Sith
5
      Star Wars: Episode III
                               Revenge of the Sith
1182
      Star Wars: Episode III
                               Revenge of the Sith
1183
      Star Wars: Episode III
                               Revenge of the Sith
1184
                                                NaN
1185
      Star Wars: Episode III
                               Revenge of the Sith
1186
                                                NaN
                           seen episode4
1
      Star Wars: Episode IV A New Hope
2
                                     NaN
3
                                     NaN
4
      Star Wars: Episode IV
                              A New Hope
5
      Star Wars: Episode IV
                              A New Hope
1182
      Star Wars: Episode IV
                              A New Hope
1183
      Star Wars: Episode IV
                              A New Hope
1184
                                     NaN
1185
      Star Wars: Episode IV
                             A New Hope
```

```
1186
                                     NaN
                                      seen episode5
1
      Star Wars: Episode V The Empire Strikes Back
2
                                                 NaN
3
                                                 NaN
4
      Star Wars: Episode V The Empire Strikes Back
5
      Star Wars: Episode V The Empire Strikes Back
      Star Wars: Episode V The Empire Strikes Back
1182
1183
      Star Wars: Episode V The Empire Strikes Back
1184
                                                 NaN
1185
      Star Wars: Episode V The Empire Strikes Back
1186
      Star Wars: Episode V The Empire Strikes Back
                                  seen episode6
1
      Star Wars: Episode VI Return of the Jedi
2
                                            NaN
3
      Star Wars: Episode VI Return of the Jedi
5
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
1182
      Star Wars: Episode VI Return of the Jedi
1183
1184
1185
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
[1186 rows x 6 columns]
seen = seen.notnull()
cleaned
                id seen any
                                fan
                       True
                               True
1
      3.292880e+09
2
      3.292880e+09
                       False
                                NaN
3
      3.292765e+09
                       True
                              False
      3.292763e+09
4
                       True
                               True
5
      3.292731e+09
                       True
                               True
                                . . .
                         . . .
1182
      3.288389e+09
                        True
                               True
1183
      3.288379e+09
                       True
                               True
1184
      3.288375e+09
                               NaN
                       False
      3.288373e+09
1185
                       True
                               True
1186 3.288373e+09
                             False
                       True
[1186 rows x 3 columns]
seen
```

1 2 3 4 5 1182 1183 1184 1185 1186	seen_episode1 True False True True True True True True True Tru	seen_episode2 True False True True True True True True True Tru	seen_episode3 True False True True True True True True True Tru	seen_episode4 True False False True True True True False True False True False	\
1 2 3 4 5 1182 1183 1184 1185 1186	seen_episode5 True False False True True True True True True True Tru	seen_episode6 True False False True True True True True True True Tru	Tucse	racsc	
df.ild		Star Wars film	s in order of p nchise and 6 be		1
	ite film.			3 NaN	
3				5	
5 1182				5 5	
1183				4	

1184

NaN

1185					4
1186					6
1	Unnamed: 10 2	Unnamed: 11	Unnamed: 12	Unnamed: 13 5	Unnamed: 14
2	NaN	NaN	NaN 4	NaN	NaN
3 4	2 6	3 1	2	5 4	6 3
5	4	6	2	1	3
1182	4	6	3	2	1
1183		6	2	3	1
1184 1185		NaN 6	NaN 5	NaN 2	NaN 1
1186		2	3	4	5
[118	6 rows x 6 co	olumns]			
rank	ing = df.iloo	·[· 9·15] cou	nv()		
			<i>Sy</i> (<i>7</i>		
rank					
	g your favori				ference with 1 g your least
таvo 1	rite film.				3
\					JaN
2				r	NaN
3					1
4					5
5					5
				,	
1182					5
1183					4
1184				ľ	NaN
1185					4
1186					6
	Unnamed: 10	Unnamed: 11	Unnamed: 12	Unnamed: 13	Unnamed: 14

1	2	1	4	5	6
2	NaN	NaN	NaN	NaN	NaN
3	2	3	4	5	6
4	6	1	2	4	3
5	4	6	2	1	3
1182	4	6	3	2	1
1183	5	6	2	3	1
1184	NaN	NaN	NaN	NaN	NaN
1185	3	6	5	2	1
1186	1	2	3	4	5
[1186 rov	ws x 6 columr	ıs]			

ranking.columns

Index(['Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.',

'Unnamed: 10', 'Unnamed: 11', 'Unnamed: 12', 'Unnamed: 13', 'Unnamed: 14'], dtype='object')

ranking.columns = ["ranking_"+str(i) for i in range(1,7)] # list
comprehension

ranking

	1 ' 1					
	ranking_i	ranking_2	ranking_3	ranking_4	ranking_5	ranking_6
1	3	2	1	4	5	6
2	NaN	NaN	NaN	NaN	NaN	NaN
3	1	2	3	4	5	6
4	5	6	1	2	4	3
5	5	4	6	2	1	3
1182	5	4	6	3	2	1
1183	4	5	6	2	3	1
1184	NaN	NaN	NaN	NaN	NaN	NaN
1185	4	3	6	5	2	1
1186	6	1	2	3	4	5

[1186 rows x 6 columns]

ranking.info()

```
ranking 2 836 non-null
                                object
 1
 2
     ranking 3
                835 non-null
                                object
3
     ranking 4 836 non-null
                                object
     ranking 5 836 non-null
                                object
 5
     ranking 6 836 non-null
                                object
dtypes: object(6)
memory usage: 55.7+ KB
ranking.astype(int)
ValueError
                                          Traceback (most recent call
last)
Cell In[108], line 1
----> 1 ranking.astype(int)
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\core\
generic.py:6324, in NDFrame.astype(self, dtype, copy, errors)
            results = [
   6317
                self.iloc[:, i].astype(dtype, copy=copy)
   6318
   6319
                for i in range(len(self.columns))
   6320
   6322 else:
   6323
            # else, only a single dtype is given
-> 6324
            new data = self. mgr.astype(dtype=dtype, copy=copy,
errors=errors)
   6325
            return self. constructor(new data). finalize (self,
method="astype")
   6327 # GH 33113: handle empty frame or series
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\core\
internals\managers.py:451, in BaseBlockManager.astype(self, dtype,
copy, errors)
    448 elif using_copy_on_write():
    449
            copy = False
--> 451 return self.apply(
    452
            "astype",
    453
            dtype=dtype,
    454
            copy=copy,
    455
            errors=errors,
    456
            using cow=using copy on write(),
    457 )
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\core\
internals\managers.py:352, in BaseBlockManager.apply(self, f,
align keys, **kwargs)
    350
                applied = b.apply(f, **kwargs)
    351
            else:
                applied = getattr(b, f)(**kwargs)
--> 352
```

```
result blocks = extend blocks(applied, result blocks)
    355 out = type(self).from blocks(result blocks, self.axes)
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\core\
internals\blocks.py:511, in Block.astype(self, dtype, copy, errors,
using cow)
    491 """
    492 Coerce to the new dtype.
    493
   (\ldots)
    507 Block
    508 """
    509 values = self.values
--> 511 new values = astype array safe(values, dtype, copy=copy,
errors=errors)
    513 new values = maybe coerce values(new values)
    515 \text{ refs} = \text{None}
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\core\
dtypes\astype.py:242, in astype array safe(values, dtype, copy,
errors)
    239
            dtype = dtype.numpy dtype
    241 try:
            new values = astype array(values, dtype, copy=copy)
--> 242
    243 except (ValueError, TypeError):
    244
            # e.g. astype nansafe can fail on object-dtype of strings
    245
            # trying to convert to float
            if errors == "ignore":
    246
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\core\
dtypes\astype.py:187, in astype array(values, dtype, copy)
    184
            values = values.astype(dtype, copy=copy)
    186 else:
            values = _astype_nansafe(values, dtype, copy=copy)
--> 187
    189 # in pandas we don't store numpy str dtypes, so convert to
object
    190 if isinstance(dtype, np.dtype) and
issubclass(values.dtype.type, str):
File ~\AppData\Roaming\Python\Python311\site-packages\pandas\core\
dtypes\astype.py:138, in astype nansafe(arr, dtype, copy, skipna)
            raise ValueError(msg)
    136 if copy or is object dtype(arr.dtype) or
is object dtype(dtype):
    137
            # Explicit copy, or required since NumPy can't view from /
to object.
            return arr.astype(dtype, copy=True)
--> 138
    140 return arr.astype(dtype, copy=copy)
ValueError: cannot convert float NaN to integer
```

ranking = ranking.astype(float)

cleaned seen ranking

1 2 3 4	ranking_1 3.0 NaN 1.0 5.0	ranking_2 2.0 NaN 2.0 6.0	ranking_3 1.0 NaN 3.0 1.0	ranking_4 4.0 NaN 4.0 2.0	ranking_5 5.0 NaN 5.0 4.0	ranking_6 6.0 NaN 6.0 3.0
5	5.0	4.0	6.0	2.0	1.0	3.0
1182 1183 1184 1185 1186	5.0 4.0 NaN 4.0 6.0	4.0 5.0 NaN 3.0 1.0	6.0 6.0 NaN 6.0 2.0	3.0 2.0 NaN 5.0 3.0	2.0 3.0 NaN 2.0 4.0	1.0 1.0 1.0 NaN 1.0 5.0

[1186 rows x 6 columns]

pd.concat([cleaned,seen, ranking])

	id	seen_any	fan	seen_episode1	seen_episode2
seen	_episode3				
1	3.292880e+09	True	True	NaN	NaN
NaN	\				
2	3.292880e+09	False	NaN	NaN	NaN
NaN					
3	3.292765e+09	True	False	NaN	NaN
NaN					
4	3.292763e+09	True	True	NaN	NaN
NaN					
5	3.292731e+09	True	True	NaN	NaN
NaN					
1182	NaN	NaN	NaN	NaN	NaN
NaN					
1183	NaN	NaN	NaN	NaN	NaN
NaN					
1184	NaN	NaN	NaN	NaN	NaN
NaN					
1185	NaN	NaN	NaN	NaN	NaN
NaN					
1186	NaN	NaN	NaN	NaN	NaN
NaN					

seen_episode4 seen_episode5 seen_episode6 ranking_1 ranking_2

1	NaN		NaN	NaN	NaN	
NaN `	\ NaN		NaN	NaN	NaN	NaN
3	NaN		NaN	NaN	NaN	NaN
4	NaN		NaN	NaN	NaN	NaN
5	NaN		NaN	NaN	NaN	NaN
1182	NaN		NaN	NaN	5.0	4.0
1183	NaN		NaN	NaN	4.0	5.0
1184	NaN		NaN	NaN	NaN	NaN
1185	NaN		NaN	NaN	4.0	3.0
1186	NaN		NaN	NaN	6.0	1.0
1 2 3 4 5 1182 1183 1184 1185 1186	NaN NaN NaN NaN NaN 6.0 6.0 NaN 6.0 2.0	nking_4 NaN NaN NaN NaN 3.0 2.0 NaN 5.0 3.0	ranking_5 NaN NaN NaN NaN 2.0 3.0 NaN 2.0 4.0	ranking_6 NaN NaN NaN NaN 1.0 1.0 NaN 1.0		
_	rows x 15 col	_				
	= cleaned.mer		_	· _		
final	= final.merge	e(ranking,	rett_index	k= <mark>∣rue</mark> , right_	_index=I rue)	
1 2 3 4 5	id 3.292880e+09 3.292880e+09 3.292765e+09 3.292763e+09 3.292731e+09	seen_any True False True True True	fan se True NaN False True True	een_episodel True False True True True	Fal Tr Tr Tr	ue \

1182	3.288389e+09	True		True	True	
1183	3.288379e+09	True		True	True	
1184	3.288375e+09	False	NaN	False	False	
1185	3.288373e+09	True	True	True	True	
1186	3.288373e+09	True	False	True	True	
	seen episode3	seen e	pisode4	seen episode5	seen episode6	
ranki						
1	True		True	True	True	
			TTUC	Truc	Truc	
	\ 		Галаа	Гајаа	Галаа	
2	False		False	False	False	
NaN						
3	True		False	False	False	
1.0						
4	True		True	True	True	
5.0						
5	True		True	True	True	
5.0	TTUE		TTUE	TTUE	True	
1182	True		True	True	True	
5.0						
1183	True		True	True	True	
4.0						
1184	False		False	False	False	
NaN	Tucse		1 4 6 5 6	racse	14656	
	Т		T	Т	Т	
1185	True		True	True	True	
4.0				_	_	
1186	False		False	True	True	
6.0						
	ranking 2 ran	nking 3	ranking	_4 ranking_5	ranking_6	
1	2.0	1.0	4		6.0	
2	NaN	NaN		aN NaN	NaN	
3	2.0	3.0		.0 5.0	6.0	
4	6.0	1.0		.0 4.0	3.0	
5						
2	4.0	6.0	2	.0 1.0	3.0	
1182	4.0	6.0		.0 2.0	1.0	
1183	5.0	6.0	2	.0 3.0	1.0	
1184	NaN	NaN	Na	aN NaN	NaN	
1185	3.0	6.0		.0 2.0	1.0	
1186	1.0	2.0		.0 4.0	5.0	
1100	1.0	2.0	3	10	3.0	
[1186	rows x 15 colu	umns]				
df.il	oc[:,: <mark>15</mark>]					
	RespondentID					
1		\				

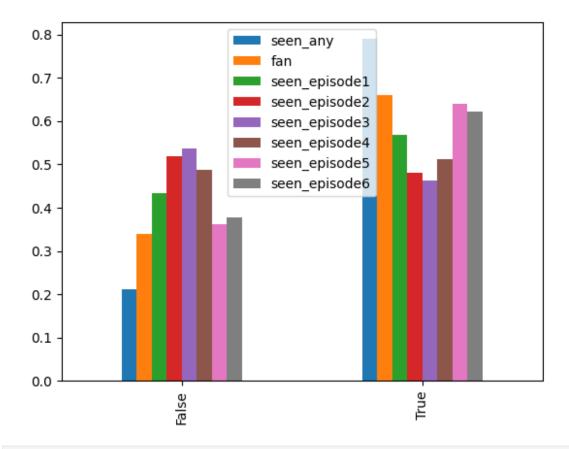
```
3.292880e+09
3
      3.292765e+09
4
      3.292763e+09
5
      3.292731e+09
1182 3.288389e+09
1183 3.288379e+09
1184 3.288375e+09
1185 3.288373e+09
1186 3.288373e+09
     Have you seen any of the 6 films in the Star Wars franchise?
1
                                                       Yes
2
                                                        No
3
                                                       Yes
4
                                                       Yes
5
                                                       Yes
                                                       . . .
. . .
1182
                                                       Yes
1183
                                                       Yes
1184
                                                       No
1185
                                                       Yes
1186
                                                       Yes
     Do you consider yourself to be a fan of the Star Wars film
franchise?
1
                                                       Yes
\
2
                                                       NaN
3
                                                        No
                                                       Yes
5
                                                       Yes
1182
                                                       Yes
1183
                                                       Yes
1184
                                                       NaN
1185
                                                       Yes
1186
                                                        No
     Which of the following Star Wars films have you seen? Please
```

```
select all that apply.
               Star Wars: Episode I The Phantom Menace
2
                                                     NaN
3
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
               Star Wars: Episode I The Phantom Menace
1182
               Star Wars: Episode I The Phantom Menace
1183
               Star Wars: Episode I The Phantom Menace
1184
                                                     NaN
1185
               Star Wars: Episode I The Phantom Menace
1186
               Star Wars: Episode I The Phantom Menace
                                       Unnamed: 4
     Star Wars: Episode II Attack of the Clones
2
3
     Star Wars: Episode II
                            Attack of the Clones
      Star Wars: Episode II
                            Attack of the Clones
5
     Star Wars: Episode II
                            Attack of the Clones
1182
     Star Wars: Episode II
                            Attack of the Clones
     Star Wars: Episode II
                            Attack of the Clones
1183
1184
1185
     Star Wars: Episode II
                            Attack of the Clones
1186 Star Wars: Episode II Attack of the Clones
                                       Unnamed: 5
1
     Star Wars: Episode III Revenge of the Sith
                                              NaN
3
     Star Wars: Episode III
                              Revenge of the Sith
4
      Star Wars: Episode III
                              Revenge of the Sith
5
     Star Wars: Episode III
                              Revenge of the Sith
     Star Wars: Episode III
                              Revenge of the Sith
1182
     Star Wars: Episode III
1183
                              Revenge of the Sith
1184
                                              NaN
1185
     Star Wars: Episode III
                              Revenge of the Sith
1186
                                              NaN
```

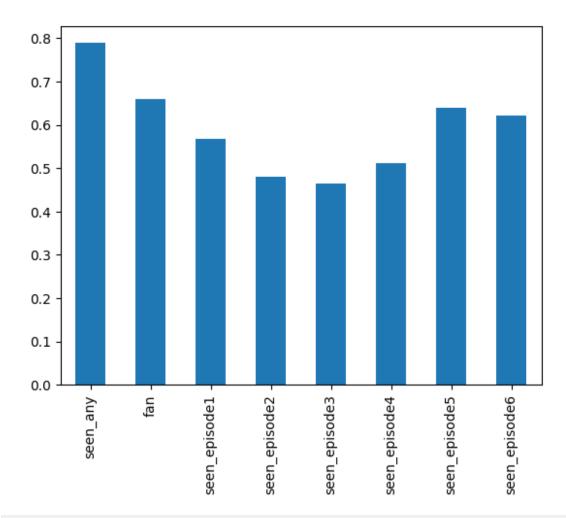
```
Unnamed: 6
      Star Wars: Episode IV
1
                             A New Hope \
2
                                     NaN
3
                                     NaN
4
      Star Wars: Episode IV
                             A New Hope
5
      Star Wars: Episode IV
                             A New Hope
1182
      Star Wars: Episode IV
                             A New Hope
1183
      Star Wars: Episode IV
                             A New Hope
1184
                                     NaN
1185
      Star Wars: Episode IV
                             A New Hope
1186
                                     NaN
                                         Unnamed: 7
      Star Wars: Episode V The Empire Strikes Back \
2
                                                NaN
3
                                                NaN
4
      Star Wars: Episode V The Empire Strikes Back
5
      Star Wars: Episode V The Empire Strikes Back
1182
      Star Wars: Episode V The Empire Strikes Back
1183
      Star Wars: Episode V The Empire Strikes Back
1184
1185
      Star Wars: Episode V The Empire Strikes Back
1186 Star Wars: Episode V The Empire Strikes Back
                                     Unnamed: 8
      Star Wars: Episode VI Return of the Jedi \
1
2
                                            NaN
3
                                            NaN
4
      Star Wars: Episode VI Return of the Jedi
5
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
1182
1183
      Star Wars: Episode VI Return of the Jedi
1184
                                            NaN
1185
      Star Wars: Episode VI Return of the Jedi
      Star Wars: Episode VI Return of the Jedi
     Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
favorite film.
1
                                                       3
/
2
                                                     NaN
                                                       1
                                                       5
```

```
5
                                                         5
1182
                                                         5
1183
1184
                                                       NaN
1185
                                                         4
1186
                                                         6
     Unnamed: 10 Unnamed: 11 Unnamed: 12 Unnamed: 13 Unnamed: 14
1
2
             NaN
                          NaN
                                       NaN
                                                    NaN
                                                                 NaN
3
                                         4
                                                      5
                2
                            3
                                                                   6
4
                            1
                                         2
                                                                   3
                6
                                                      4
5
                                         2
                                                                   3
                4
                            6
                                                      1
                                                                 . . .
1182
                4
                            6
                                         3
                                                      2
                                                                   1
                5
                                         2
1183
                            6
                                                      3
                                                                   1
1184
             NaN
                          NaN
                                       NaN
                                                    NaN
                                                                 NaN
1185
                                         5
                3
                            6
                                                      2
                                                                   1
                1
                                         3
                                                                   5
1186
[1186 rows x 15 columns]
cleaned.iloc[:,1:].apply(pd.value counts(normalize = True), axis =
"index")
                                            Traceback (most recent call
TypeError
last)
Cell In[119], line 1
----> 1 cleaned.iloc[:,1:].apply(pd.value_counts(normalize = True),
axis = "index")
TypeError: value_counts() missing 1 required positional argument:
'values'
cleaned.iloc[:,1:].apply(lambda col:col.value counts(normalize =
True), axis = 0)*100
        seen any
True
       78.920742
                  66.028708
False 21.079258 33.971292
```

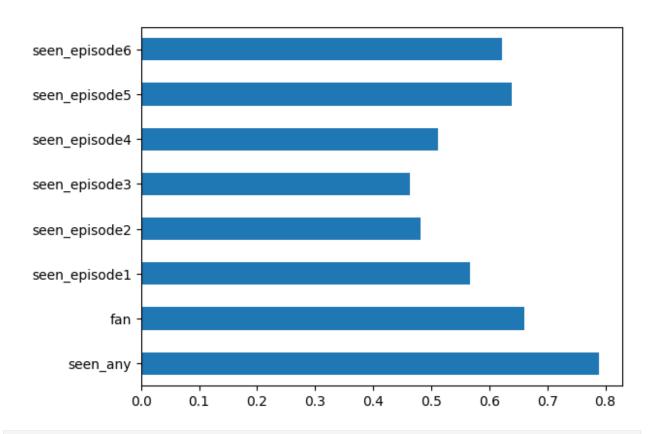
```
final.iloc[:,1:3]["seen any"].value counts(normalize = True)*100
seen any
         78,920742
True
False
         21.079258
Name: proportion, dtype: float64
def perc(col):
    return col.value counts(normalize = True)
final.iloc[:,1:3].apply(lambda i:i.value counts(normalize = True))
       seen any
                      fan
True
       0.789207
                 0.660287
False 0.210793 0.339713
final.iloc[:,1:3].apply(perc, axis = 0)
                      fan
       seen any
       0.789207
                 0.660287
True
False 0.210793
                 0.339713
percentages = final.iloc[:,1:9].apply(lambda
i:i.value counts(normalize = True))
percentages
                           seen episodel seen episode2 seen episode3
       seen any
                      fan
False 0.210793 0.339713
                                0.432546
                                                0.51855
                                                              0.536256
True
       0.789207 0.660287
                                0.567454
                                                0.48145
                                                              0.463744
                      seen_episode5
       seen episode4
                                     seen episode6
False
            0.488196
                           0.360877
                                           0.37774
True
            0.511804
                           0.639123
                                           0.62226
import matplotlib.pyplot as plt
percentages.plot.bar()
plt.show()
```



```
percentages.loc[True].plot.bar()
plt.show()
```

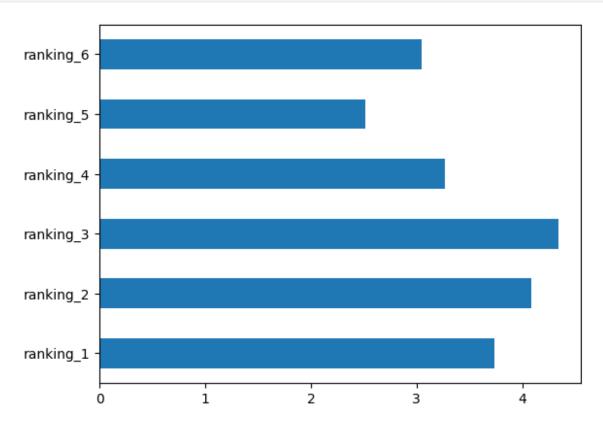


percentages.loc[True].plot.barh()
plt.show()



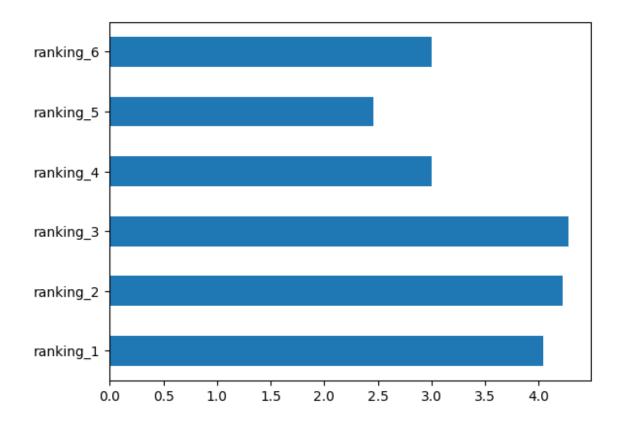
final.iloc[:,9:] ranking_3 ranking_5 ranking_1 ranking_2 ranking_4 ranking 6 1 3.0 2.0 1.0 4.0 5.0 6.0 2 NaN NaN NaN NaN NaN NaN 3 1.0 2.0 3.0 4.0 5.0 6.0 4 5.0 6.0 1.0 2.0 4.0 3.0 5 5.0 4.0 6.0 2.0 1.0 3.0 1182 5.0 4.0 6.0 3.0 2.0 1.0 1183 4.0 5.0 6.0 2.0 3.0 1.0 1184 NaN NaN NaN NaN NaN NaN 1185 4.0 3.0 6.0 5.0 2.0 1.0 1.0 3.0 5.0 1186 6.0 2.0 4.0 [1186 rows x 6 columns] final.iloc[:,9:].mean() ranking_1 3.732934 ranking 2 4.087321 ranking 3 4.341317 ranking 4 3.272727 ranking 5 2.513158 ranking 6 3.047847 dtype: float64

```
final.iloc[:,9:].mean().plot.barh()
plt.show()
```



```
final.iloc[:,9:].max()
ranking 1
             6.0
ranking 2
             6.0
ranking 3
             6.0
ranking 4
             6.0
ranking 5
             6.0
ranking 6
             6.0
dtype: float64
df.columns
Index(['RespondentID',
       'Have you seen any of the 6 films in the Star Wars franchise?',
       'Do you consider yourself to be a fan of the Star Wars film
franchise?',
       'Which of the following Star Wars films have you seen? Please
select all that apply.',
       'Unnamed: 4', 'Unnamed: 5', 'Unnamed: 6', 'Unnamed: 7',
'Unnamed: 8',
       'Please rank the Star Wars films in order of preference with 1
being your favorite film in the franchise and 6 being your least
```

```
favorite film.',
        'Unnamed: 10', 'Unnamed: 11', 'Unnamed: 12', 'Unnamed: 13',
        'Unnamed: 14',
        'Please state whether you view the following characters
favorably, unfavorably, or are unfamiliar with him/her.',
        'Unnamed: 16', 'Unnamed: 17', 'Unnamed: 18', 'Unnamed: 19', 'Unnamed: 20', 'Unnamed: 21', 'Unnamed: 22', 'Unnamed: 23', 'Unnamed: 24', 'Unnamed: 25', 'Unnamed: 26', 'Unnamed: 27', 'Unnamed: 28', 'Which character shot first?',
        'Are you familiar with the Expanded Universe?'
        'Do you consider yourself to be a fan of the Expanded Universe?
Њж',
        'Do you consider yourself to be a fan of the Star Trek
franchise?',
        'Gender', 'Age', 'Household Income', 'Education',
        'Location (Census Region)'],
       dtype='object')
male bol = df["Gender"] == "Male"
female bol = df["Gender"] == "Female"
male = final[male bol]
female = final[female bol]
print(male.shape, female.shape)
(497, 15) (549, 15)
print(male.shape[0]+ female.shape[0])
1046
df["Gender"].value counts(dropna = False)
Gender
Female
            549
            497
Male
            140
Name: count, dtype: int64
male.iloc[:,9:].mean().plot.barh()
plt.show()
```



female.iloc[:,9:].mean().plot.barh()
plt.show()

