

```
In [6]: import pandas as pd
df=pd.read_csv("FOOD_MUSIC.csv")
```

```
In [7]: df
```

```
Out[7]:
```

	Name	GENDER	AGE	FOOD	MUSIC
0	Swati Konar	Female	19	NON-VEG	CLASSIC
1	Sumanta karmakar	MALE	20	NON-VEG	ROCK
2	Ananya Das	Female	20	NON-VEG	ROCK
3	DEBASHISH MISHRA	MALE	20	VEG	ROCK
4	Habi Ullah	MALE	29	NON-VEG	Arabic
5	Apurba Sarkar	MALE	21	NON-VEG	CLASSIC
6	Geet Roy	MALE	19	VEG	HIPHOP
7	Rajat Poddar	MALE	24	NON-VEG	EDM
8	Snehasish Karmakar	MALE	21	NON-VEG	HIPHOP
9	Anirban Ghosh	MALE	19	NON-VEG	ROCK
10	Prosun Futta	MALE	21	NON-VEG	CLASSIC
11	Shuvadip Dutta	MALE	18	NON-VEG	CLASSIC
12	Faizal Khan	MALE	20	NON-VEG	Lofi
13	Goutam Mondal	MALE	23	NON-VEG	ROCK
14	Partho	MALE	30	NON-VEG	ROCK
15	Suvasish Jana	MALE	20	NON-VEG	CLASSIC
16	Dinesh kundo	MALE	21	VEG	HIPHOP
17	Jeet Bhattacharjee	MALE	22	NON-VEG	CLASSIC
18	Tushar Kanti Naskar	MALE	22	NON-VEG	HIPHOP

	Name	GENDER	AGE	FOOD	MUSIC
19	Subhadip Samanta	MALE	20	Both	CLASSIC
20	PRAMIT PRAMANICK	MALE	19	NON-VEG	CLASSIC
21	Jayita Pal	Female	22	NON-VEG	CLASSIC
22	Pradipta banerjee	MALE	24	NON-VEG	CLASSIC
23	AVIJIT SANI	MALE	20	NON-VEG	JAZZ
24	Subhajit bey	MALE	14	NON-VEG	ROCK
25	Saheli Mondal	Female	31	NON-VEG	CLASSIC
26	MD ALIF NOOR REZA	MALE	24	NON-VEG	ROCK
27	Nayan Bose	MALE	20	NON-VEG	CLASSIC
28	Sushil kumar Panjiyara	MALE	20	NON-VEG	CLASSIC
29	PRITAM BERA	MALE	19	Both	CLASSIC
30	Kushal Kayal	MALE	20	NON-VEG	CLASSIC
31	Sanju Das	MALE	20	NON-VEG	CLASSIC
32	Md Sakib Reja	MALE	20	VEG	ROCK
33	Sayak kar	MALE	20	NON-VEG	CLASSIC
34	Narayan Kumar bhandari	MALE	22	VEG	HIPHOP
35	Sankhadip das	MALE	22	NON-VEG	CLASSIC
36	Goutam Bej	MALE	21	NON-VEG	CLASSIC
37	Shahwez Ahmad	MALE	19	NON-VEG	JAZZ
38	Chaitali Majumder	Female	22	NON-VEG	CLASSIC
39	Priyanka Maity	Female	22	NON-VEG	CLASSIC
40	Alapan Ganguly	MALE	22	NON-VEG	CLASSIC
41	Pritam gharami	MALE	23	NON-VEG	CLASSIC
42	Pallabi Roy	Female	20	NON-VEG	ROCK

	Name	GENDER	AGE	FOOD	MUSIC
43	ATANU ROY	MALE	21	NON-VEG	CLASSIC
44	Sneha Debnath	Female	24	NON-VEG	CLASSIC
45	Saurabh Kumar Singh	MALE	23	NON-VEG	Electronics
46	Nilima Dey	Female	26	Both	CLASSIC
47	Raju Sarkar	MALE	28	NON-VEG	HIPHOP
48	Somu Sarkar	MALE	30	VEG	JAZZ
49	Jogamaya Sarkar	Female	30	VEG	CLASSIC
50	Arijit Chakraborty	MALE	22	NON-VEG	ROCK
51	Aryan Biswas	MALE	21	NON-VEG	HIPHOP
52	Pritom saha	MALE	21	NON-VEG	ROCK
53	Sabikun Nahar	Female	21	NON-VEG	CLASSIC
54	Munmun Ghosh	Female	22	NON-VEG	CLASSIC
55	Amrito Roy	MALE	22	NON-VEG	CLASSIC

In [3]: `df['FOOD'].value_counts()`

Out[3]:

NON-VEG	46
VEG	7
Both	2
Both	1

Name: FOOD, dtype: int64

In [4]: `df.keys()`

Out[4]: Index(['Name', 'GENDER', 'AGE', 'FOOD', 'MUSIC'], dtype='object')

In [5]: `df.head`

Out[5]: <bound method NDFrame.head of

	Name	GENDER	AGE	FOOD	MUSIC
0	Swati Konar	Female	19	NON-VEG	CLASSIC
1	Sumanta karmakar	MALE	20	NON-VEG	ROCK
2	Ananya Das	Female	20	NON-VEG	ROCK
3	DEBASHISH MISHRA	MALE	20	VEG	ROCK
4	Habi Ullah	MALE	29	NON-VEG	Arabic
5	Apurba Sarkar	MALE	21	NON-VEG	CLASSIC
6	Geet Roy	MALE	19	VEG	HIPHOP
7	Rajat Poddar	MALE	24	NON-VEG	EDM
8	Snehasish Karmakar	MALE	21	NON-VEG	HIPHOP
9	Anirban Ghosh	MALE	19	NON-VEG	ROCK
10	Prosun Futta	MALE	21	NON-VEG	CLASSIC
11	Shuvadip Dutta	MALE	18	NON-VEG	CLASSIC
12	Faizal Khan	MALE	20	NON-VEG	Lofi
13	Goutam Mondal	MALE	23	NON-VEG	ROCK
14	Partho	MALE	30	NON-VEG	ROCK
15	Suvasish Jana	MALE	20	NON-VEG	CLASSIC
16	Dinesh kundo	MALE	21	VEG	HIPHOP
17	Jeet Bhattacharjee	MALE	22	NON-VEG	CLASSIC
18	Tushar Kanti Naskar	MALE	22	NON-VEG	HIPHOP
19	Subhadip Samanta	MALE	20	Both	CLASSIC
20	PRAMIT PRAMANICK	MALE	19	NON-VEG	CLASSIC
21	Jayita Pal	Female	22	NON-VEG	CLASSIC
22	Pradipta banerjee	MALE	24	NON-VEG	CLASSIC
23	AVIJIT SANI	MALE	20	NON-VEG	JAZZ
24	Subhajit bey	MALE	14	NON-VEG	ROCK
25	Saheli Mondal	Female	31	NON-VEG	CLASSIC
26	MD ALIF NOOR REZA	MALE	24	NON-VEG	ROCK
27	Nayan Bose	MALE	20	NON-VEG	CLASSIC
28	Sushil kumar Panjiyara	MALE	20	NON-VEG	CLASSIC
29	PRITAM BERA	MALE	19	Both	CLASSIC
30	Kushal Kayal	MALE	20	NON-VEG	CLASSIC
31	Sanju Das	MALE	20	NON-VEG	CLASSIC
32	Md Sakib Reja	MALE	20	VEG	ROCK
33	Sayak kar	MALE	20	NON-VEG	CLASSIC
34	Narayan Kumar bhandari	MALE	22	VEG	HIPHOP
35	Sankhadip das	MALE	22	NON-VEG	CLASSIC
36	Goutam Bej	MALE	21	NON-VEG	CLASSIC
37	Shahwez Ahmad	MALE	19	NON-VEG	JAZZ
38	Chaitali Majumder	Female	22	NON-VEG	CLASSIC
39	Priyanka Maity	Female	22	NON-VEG	CLASSIC
40	Alapan Ganguly	MALE	22	NON-VEG	CLASSIC
41	Pritam gharami	MALE	23	NON-VEG	CLASSIC
42	Pallabi Roy	Female	20	NON-VEG	ROCK

43	ATANU ROY	MALE	21	NON-VEG	CLASSIC
44	Sneha Debnath	Female	24	NON-VEG	CLASSIC
45	Saurabh Kumar Singh	MALE	23	NON-VEG	Electronics
46	Nilima Dey	Female	26	Both	CLASSIC
47	Raju Sarkar	MALE	28	NON-VEG	HIPHOP
48	Somu Sarkar	MALE	30	VEG	JAZZ
49	Jogamaya Sarkar	Female	30	VEG	CLASSIC
50	Arijit Chakraborty	MALE	22	NON-VEG	ROCK
51	Aryan Biswas	MALE	21	NON-VEG	HIPHOP
52	Pritom saha	MALE	21	NON-VEG	ROCK
53	Sabikun Nahar	Female	21	NON-VEG	CLASSIC
54	Munmun Ghosh	Female	22	NON-VEG	CLASSIC
55	Amrito Roy	MALE	22	NON-VEG	CLASSIC>

In [6]: `df.head()`

Out[6]:

	Name	GENDER	AGE	FOOD	MUSIC
0	Swati Konar	Female	19	NON-VEG	CLASSIC
1	Sumanta karmakar	MALE	20	NON-VEG	ROCK
2	Ananya Das	Female	20	NON-VEG	ROCK
3	DEBASHISH MISHRA	MALE	20	VEG	ROCK
4	Habi Ullah	MALE	29	NON-VEG	Arabic

In [7]: `df.sample(10)`

Out[7]:

	Name	GENDER	AGE	FOOD	MUSIC
19	Subhadip Samanta	MALE	20	Both	CLASSIC
42	Pallabi Roy	Female	20	NON-VEG	ROCK
44	Sneha Debnath	Female	24	NON-VEG	CLASSIC
32	Md Sakib Reja	MALE	20	VEG	ROCK
47	Raju Sarkar	MALE	28	NON-VEG	HIPHOP
8	Snehasish Karmakar	MALE	21	NON-VEG	HIPHOP

	Name	GENDER	AGE	FOOD	MUSIC
0	Swati Konar	Female	19	NON-VEG	CLASSIC
30	Kushal Kayal	MALE	20	NON-VEG	CLASSIC
18	Tushar Kanti Naskar	MALE	22	NON-VEG	HIPHOP
36	Goutam Bej	MALE	21	NON-VEG	CLASSIC

In [8]: `df.describe()`

Out[8]:

	AGE
count	56.000000
mean	21.892857
std	3.279016
min	14.000000
25%	20.000000
50%	21.000000
75%	22.250000
max	31.000000

In [9]: `df.shape`

Out[9]: (56, 5)

In [10]: `df.values`

Out[10]:

```
array([[ 'Swati Konar', 'Female', 19, 'NON-VEG', 'CLASSIC'],
       [ 'Sumanta karmakar', 'MALE', 20, 'NON-VEG', 'ROCK'],
       [ 'Ananya Das ', 'Female', 20, 'NON-VEG', 'ROCK'],
       [ 'DEBASHISH MISHRA', 'MALE', 20, 'VEG', 'ROCK'],
       [ 'Habi Ullah', 'MALE', 29, 'NON-VEG', 'Arabic'],
```

```
['Apurba Sarkar ', 'MALE', 21, 'NON-VEG', 'CLASSIC'],
['Geet Roy', 'MALE', 19, 'VEG', 'HIPHOP'],
['Rajat Poddar', 'MALE', 24, 'NON-VEG', 'EDM'],
['Snehasish Karmakar ', 'MALE', 21, 'NON-VEG', 'HIPHOP'],
['Anirban Ghosh', 'MALE', 19, 'NON-VEG', 'ROCK'],
['Prosun Futta', 'MALE', 21, 'NON-VEG', 'CLASSIC'],
['Shuvadip Dutta ', 'MALE', 18, 'NON-VEG', 'CLASSIC'],
['Faizal Khan ', 'MALE', 20, 'NON-VEG', 'Lofi'],
['Goutam Mondal ', 'MALE', 23, 'NON-VEG', 'ROCK'],
['Partho', 'MALE', 30, 'NON-VEG', 'ROCK'],
['Suvasish Jana', 'MALE', 20, 'NON-VEG', 'CLASSIC'],
['Dinesh kundo', 'MALE', 21, 'VEG', 'HIPHOP'],
['Jeet Bhattacharjee ', 'MALE', 22, 'NON-VEG', 'CLASSIC'],
['Tushar Kanti Naskar ', 'MALE', 22, 'NON-VEG', 'HIPHOP'],
['Subhadip Samanta', 'MALE', 20, 'Both ', 'CLASSIC'],
['PRAMIT PRAMANICK ', 'MALE', 19, 'NON-VEG', 'CLASSIC'],
['Jayita Pal ', 'Female', 22, 'NON-VEG', 'CLASSIC'],
['Pradipta banerjee ', 'MALE', 24, 'NON-VEG', 'CLASSIC'],
['AVIJIT SANI', 'MALE', 20, 'NON-VEG', 'JAZZ'],
['Subhajit bey', 'MALE', 14, 'NON-VEG', 'ROCK'],
['Saheli Mondal ', 'Female', 31, 'NON-VEG', 'CLASSIC'],
['MD ALIF NOOR REZA ', 'MALE', 24, 'NON-VEG', 'ROCK'],
['Nayan Bose ', 'MALE', 20, 'NON-VEG', 'CLASSIC'],
['Sushil kumar Panjiyara ', 'MALE', 20, 'NON-VEG', 'CLASSIC'],
['PRITAM BERA', 'MALE', 19, 'Both', 'CLASSIC'],
['Kushal Kayal ', 'MALE', 20, 'NON-VEG', 'CLASSIC'],
['Sanju Das', 'MALE', 20, 'NON-VEG', 'CLASSIC'],
['Md Sakib Reja', 'MALE', 20, 'VEG', 'ROCK'],
['Sayak kar ', 'MALE', 20, 'NON-VEG', 'CLASSIC'],
['Narayan Kumar bhandari ', 'MALE', 22, 'VEG', 'HIPHOP'],
['Sankhadip das', 'MALE', 22, 'NON-VEG', 'CLASSIC'],
['Goutam Bej ', 'MALE', 21, 'NON-VEG', 'CLASSIC'],
['Shahwez Ahmad ', 'MALE', 19, 'NON-VEG', 'JAZZ'],
['Chaitali Majumder', 'Female', 22, 'NON-VEG', 'CLASSIC'],
['Priyanka Maity ', 'Female', 22, 'NON-VEG', 'CLASSIC'],
['Alapan Ganguly ', 'MALE', 22, 'NON-VEG', 'CLASSIC'],
['Pritam gharami', 'MALE', 23, 'NON-VEG', 'CLASSIC'],
['Pallabi Roy ', 'Female', 20, 'NON-VEG', 'ROCK'],
['ATANU ROY', 'MALE', 21, 'NON-VEG', 'CLASSIC'],
['Sneha Debnath ', 'Female', 24, 'NON-VEG', 'CLASSIC'],
['Saurabh Kumar Singh ', 'MALE', 23, 'NON-VEG', 'Electronics '],
['Nilima Dey', 'Female', 26, 'Both', 'CLASSIC'],
['Raju Sarkar', 'MALE', 28, 'NON-VEG', 'HIPHOP'],
['Somu Sarkar', 'MALE', 30, 'VEG', 'JAZZ'],
```

```
['Jogamaya Sarkar', 'Female', 30, 'VEG', 'CLASSIC'],
['Arijit Chakraborty ', 'MALE', 22, 'NON-VEG', 'ROCK'],
['Aryan Biswas ', 'MALE', 21, 'NON-VEG', 'HIPHOP'],
['Pritom saha', 'MALE', 21, 'NON-VEG', 'ROCK'],
['Sabikun Nahar ', 'Female', 21, 'NON-VEG', 'CLASSIC'],
['Munmun Ghosh ', 'Female', 22, 'NON-VEG', 'CLASSIC'],
['Amrito Roy', 'MALE', 22, 'NON-VEG', 'CLASSIC']], dtype=object)
```

In [13]:

```
df=df.replace(to_replace='HIPHOP',value=1)
df=df.replace(to_replace='JAZZ',value=2)
df=df.replace(to_replace='CLASSIC',value=3)
df=df.replace(to_replace='ROCK',value=4)
df=df.replace(to_replace='Arabic',value=5)
df=df.replace(to_replace='EDM',value=6)
df=df.replace(to_replace='Lofi',value=7)
df=df.replace(to_replace='Electronics ',value=8)
df=df.replace(to_replace='MALE',value=1)
df=df.replace(to_replace='Female',value=2)
df=df.replace(to_replace='NON-VEG',value=1)
df=df.replace(to_replace='VEG',value=2)
df=df.replace(to_replace='Both ',value=3)
df=df.replace(to_replace='both',value=4)
df
```

Out[13]:

	Name	GENDER	AGE	FOOD	MUSIC
0	Swati Konar	2	19	1	3
1	Sumanta karmakar	1	20	1	4
2	Ananya Das	2	20	1	4
3	DEBASHISH MISHRA	1	20	2	4
4	Habi Ullah	1	29	1	5
5	Apurba Sarkar	1	21	1	3
6	Geet Roy	1	19	2	1
7	Rajat Poddar	1	24	1	6
8	Snehasish Karmakar	1	21	1	1
9	Anirban Ghosh	1	19	1	4



	Name	GENDER	AGE	FOOD	MUSIC
10	Prosun Futta	1	21	1	3
11	Shuvadip Dutta	1	18	1	3
12	Faizal Khan	1	20	1	7
13	Goutam Mondal	1	23	1	4
14	Partho	1	30	1	4
15	Suvasish Jana	1	20	1	3
16	Dinesh kundo	1	21	2	1
17	Jeet Bhattacharjee	1	22	1	3
18	Tushar Kanti Naskar	1	22	1	1
19	Subhadip Samanta	1	20	3	3
20	PRAMIT PRAMANICK	1	19	1	3
21	Jayita Pal	2	22	1	3
22	Pradipta banerjee	1	24	1	3
23	AVIJIT SANI	1	20	1	2
24	Subhajit bey	1	14	1	4
25	Saheli Mondal	2	31	1	3
26	MD ALIF NOOR REZA	1	24	1	4
27	Nayan Bose	1	20	1	3
28	Sushil kumar Panjiyara	1	20	1	3
29	PRITAM BERA	1	19	3	3
30	Kushal Kayal	1	20	1	3
31	Sanju Das	1	20	1	3
32	Md Sakib Reja	1	20	2	4
33	Sayak kar	1	20	1	3

	Name	GENDER	AGE	FOOD	MUSIC
34	Narayan Kumar bhandari	1	22	2	1
35	Sankhadip das	1	22	1	3
36	Goutam Bej	1	21	1	3
37	Shahwez Ahmad	1	19	1	2
38	Chaitali Majumder	2	22	1	3
39	Priyanka Maity	2	22	1	3
40	Alapan Ganguly	1	22	1	3
41	Pritam gharami	1	23	1	3
42	Pallabi Roy	2	20	1	4
43	ATANU ROY	1	21	1	3
44	Sneha Debnath	2	24	1	3
45	Saurabh Kumar Singh	1	23	1	8
46	Nilima Dey	2	26	3	3
47	Raju Sarkar	1	28	1	1
48	Somu Sarkar	1	30	2	2
49	Jogamaya Sarkar	2	30	2	3
50	Arijit Chakraborty	1	22	1	4
51	Aryan Biswas	1	21	1	1
52	Pritom saha	1	21	1	4
53	Sabikun Nahar	2	21	1	3
54	Munmun Ghosh	2	22	1	3
55	Amrito Roy	1	22	1	3

In [14]: `print(df['AGE'].mean())`

21.892857142857142

```
In [15]: print(df['AGE'].median())
```

21.0

```
In [16]: print(df['AGE'].min())
```

14

```
In [17]: print(df['AGE'].max())
```

31

```
In [18]: print(df['AGE'].std())
```

3.2790163238306773

```
In [19]: a=df.drop(columns='MUSIC')  
a
```

Out[19]:

	Name	GENDER	AGE	FOOD
0	Swati Konar	2	19	1
1	Sumanta karmakar	1	20	1
2	Ananya Das	2	20	1
3	DEBASHISH MISHRA	1	20	2
4	Habi Ullah	1	29	1
5	Apurba Sarkar	1	21	1
6	Geet Roy	1	19	2
7	Rajat Poddar	1	24	1
8	Snehasish Karmakar	1	21	1
9	Anirban Ghosh	1	19	1

	Name	GENDER	AGE	FOOD
10	Prosun Futta	1	21	1
11	Shuvadip Dutta	1	18	1
12	Faizal Khan	1	20	1
13	Goutam Mondal	1	23	1
14	Partho	1	30	1
15	Suvasish Jana	1	20	1
16	Dinesh kundo	1	21	2
17	Jeet Bhattacharjee	1	22	1
18	Tushar Kanti Naskar	1	22	1
19	Subhadip Samanta	1	20	3
20	PRAMIT PRAMANICK	1	19	1
21	Jayita Pal	2	22	1
22	Pradipta banerjee	1	24	1
23	AVIJIT SANI	1	20	1
24	Subhajit bey	1	14	1
25	Saheli Mondal	2	31	1
26	MD ALIF NOOR REZA	1	24	1
27	Nayan Bose	1	20	1
28	Sushil kumar Panjiyara	1	20	1
29	PRITAM BERA	1	19	3
30	Kushal Kayal	1	20	1
31	Sanju Das	1	20	1
32	Md Sakib Reja	1	20	2
33	Sayak kar	1	20	1

	Name	GENDER	AGE	FOOD
34	Narayan Kumar bhandari	1	22	2
35	Sankhadip das	1	22	1
36	Goutam Bej	1	21	1
37	Shahwez Ahmad	1	19	1
38	Chaitali Majumder	2	22	1
39	Priyanka Maity	2	22	1
40	Alapan Ganguly	1	22	1
41	Pritam gharami	1	23	1
42	Pallabi Roy	2	20	1
43	ATANU ROY	1	21	1
44	Sneha Debnath	2	24	1
45	Saurabh Kumar Singh	1	23	1
46	Nilima Dey	2	26	3
47	Raju Sarkar	1	28	1
48	Somu Sarkar	1	30	2
49	Jogamaya Sarkar	2	30	2
50	Arijit Chakraborty	1	22	1
51	Aryan Biswas	1	21	1
52	Pritom saha	1	21	1
53	Sabikun Nahar	2	21	1
54	Munmun Ghosh	2	22	1
55	Amrito Roy	1	22	1

```
In [20]: b=df.drop(columns='FOOD')
b
```

Out[20]:

	Name	GENDER	AGE	MUSIC
0	Swati Konar	2	19	3
1	Sumanta karmakar	1	20	4
2	Ananya Das	2	20	4
3	DEBASHISH MISHRA	1	20	4
4	Habi Ullah	1	29	5
5	Apurba Sarkar	1	21	3
6	Geet Roy	1	19	1
7	Rajat Poddar	1	24	6
8	Snehasish Karmakar	1	21	1
9	Anirban Ghosh	1	19	4
10	Prosun Futta	1	21	3
11	Shuvadip Dutta	1	18	3
12	Faizal Khan	1	20	7
13	Goutam Mondal	1	23	4
14	Partho	1	30	4
15	Suvasish Jana	1	20	3
16	Dinesh kundo	1	21	1
17	Jeet Bhattacharjee	1	22	3
18	Tushar Kanti Naskar	1	22	1
19	Subhadip Samanta	1	20	3
20	PRAMIT PRAMANICK	1	19	3
21	Jayita Pal	2	22	3
22	Pradipta banerjee	1	24	3
23	AVIJIT SANI	1	20	2

	Name	GENDER	AGE	MUSIC
24	Subhajit bey	1	14	4
25	Saheli Mondal	2	31	3
26	MD ALIF NOOR REZA	1	24	4
27	Nayan Bose	1	20	3
28	Sushil kumar Panjiyara	1	20	3
29	PRITAM BERA	1	19	3
30	Kushal Kayal	1	20	3
31	Sanju Das	1	20	3
32	Md Sakib Reja	1	20	4
33	Sayak kar	1	20	3
34	Narayan Kumar bhandari	1	22	1
35	Sankhadip das	1	22	3
36	Goutam Bej	1	21	3
37	Shahwez Ahmad	1	19	2
38	Chaitali Majumder	2	22	3
39	Priyanka Maity	2	22	3
40	Alapan Ganguly	1	22	3
41	Pritam gharami	1	23	3
42	Pallabi Roy	2	20	4
43	ATANU ROY	1	21	3
44	Sneha Debnath	2	24	3
45	Saurabh Kumar Singh	1	23	8
46	Nilima Dey	2	26	3
47	Raju Sarkar	1	28	1

	Name	GENDER	AGE	MUSIC
48	Somu Sarkar	1	30	2
49	Jogamaya Sarkar	2	30	3
50	Arijit Chakraborty	1	22	4
51	Aryan Biswas	1	21	1
52	Pritom saha	1	21	4
53	Sabikun Nahar	2	21	3
54	Munmun Ghosh	2	22	3
55	Amrito Roy	1	22	3

In [21]:

```
import pandas as pd
df1 = pd.DataFrame(df)
df2=df1.drop(['MUSIC', 'FOOD', 'Name'], axis=1)
df2
```

Out[21]:

	GENDER	AGE
0	2	19
1	1	20
2	2	20
3	1	20
4	1	29
5	1	21
6	1	19
7	1	24
8	1	21
9	1	19
10	1	21



	GENDER	AGE
11	1	18
12	1	20
13	1	23
14	1	30
15	1	20
16	1	21
17	1	22
18	1	22
19	1	20
20	1	19
21	2	22
22	1	24
23	1	20
24	1	14
25	2	31
26	1	24
27	1	20
28	1	20
29	1	19
30	1	20
31	1	20
32	1	20
33	1	20
34	1	22

	GENDER	AGE
35	1	22
36	1	21
37	1	19
38	2	22
39	2	22
40	1	22
41	1	23
42	2	20
43	1	21
44	2	24
45	1	23
46	2	26
47	1	28
48	1	30
49	2	30
50	1	22
51	1	21
52	1	21
53	2	21
54	2	22
55	1	22

```
In [22]: import pandas as pd
df1 = pd.DataFrame(df)
df3=df1.drop(['AGE', 'MUSIC', 'Name', 'GENDER'], axis=1)
df3
```

Out[22]:

FOOD	
0	1
1	1
2	1
3	2
4	1
5	1
6	2
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	2
17	1
18	1
19	3
20	1
21	1
22	1

FOOD	
23	1
24	1
25	1
26	1
27	1
28	1
29	3
30	1
31	1
32	2
33	1
34	2
35	1
36	1
37	1
38	1
39	1
40	1
41	1
42	1
43	1
44	1
45	1
46	3

FOOD	
47	1
48	2
49	2
50	1
51	1
52	1
53	1
54	1
55	1

In [23]:

```
x=df2
y=df3
```

In [24]:

```
import warnings
warnings.filterwarnings('ignore')
```

In [25]:

```
#DecisionTreeClassifier
import sklearn
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.4,random_state=42)
#x_train,x_test,y_train,y_test=train_test_split(random_state=42)
#from sklearn.tree import DecisionTreeClassifier
from sklearn.tree import DecisionTreeClassifier
clr=DecisionTreeClassifier()
clr.fit(x_train,y_train)
pred=clr.predict(x_test)
score=sklearn.metrics.accuracy_score(y_test,pred)
print(score)
```

0.782608695652174

```
In [26]: #confusion_matrix
from sklearn.metrics import confusion_matrix
conf_mat=confusion_matrix(y_test,pred)
print(conf_mat)
```

```
[[18  0  0]
 [ 3  0  0]
 [ 2  0  0]]
```

```
In [27]: print(pred)
```

```
[1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1]
```

```
In [28]: x_test.shape
```

```
Out[28]: (23, 2)
```

```
In [29]: x_train.shape
```

```
Out[29]: (33, 2)
```

```
In [30]: #KNeighborsClassifier
import sklearn
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.4,random_state=42)
#from sklearn.tree import DecisionTreeClassifier
from sklearn.neighbors import KNeighborsClassifier
clr=KNeighborsClassifier()
clr.fit(x_train,y_train)
pred=clr.predict(x_test)
score=sklearn.metrics.accuracy_score(y_test,pred)
print(score)
```

```
0.782608695652174
```

```
In [31]: #confusion_matrix
from sklearn.metrics import confusion_matrix
```

```
conf_mat=confusion_matrix(y_test,pred)
print(conf_mat)
```

```
[[18  0  0]
 [ 3  0  0]
 [ 2  0  0]]
```

In [32]:

```
#KNeighborsClassifier
import sklearn
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.2)
#from sklearn.tree import DecisionTreeClassifier
from sklearn.neighbors import KNeighborsClassifier
clr=KNeighborsClassifier(n_neighbors=5)
clr.fit(x_train,y_train)
pred=clr.predict(x_test)
score=sklearn.metrics.accuracy_score(y_test,pred)
print(score)
```

```
0.9166666666666666
```

In [33]:

```
#confusion_matrix
from sklearn.metrics import confusion_matrix
conf_mat=confusion_matrix(y_test,pred)
print(conf_mat)
```

```
[[11  0]
 [ 1  0]]
```

In [34]:

```
#svm
from sklearn import svm
clr=svm.SVC()
clr.fit(x_train,y_train)
pred=clr.predict(x_test)
score=sklearn.metrics.accuracy_score(y_test,pred)
print(score)
```

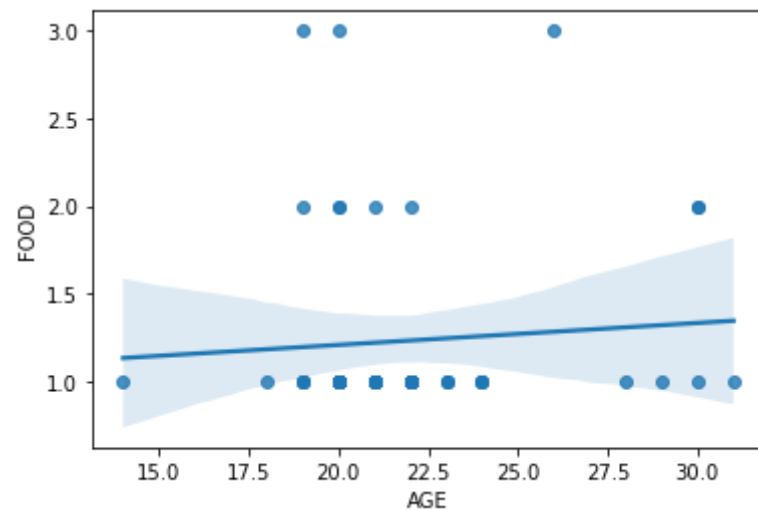
```
0.9166666666666666
```

```
In [35]: #confusion_matrix
from sklearn.metrics import confusion_matrix
conf_mat=confusion_matrix(y_test,pred)
print(conf_mat)
```

```
[[11  0]
 [ 1  0]]
```

```
In [36]: import seaborn as sns
sns.regplot(x='AGE',y='FOOD',data=df)
```

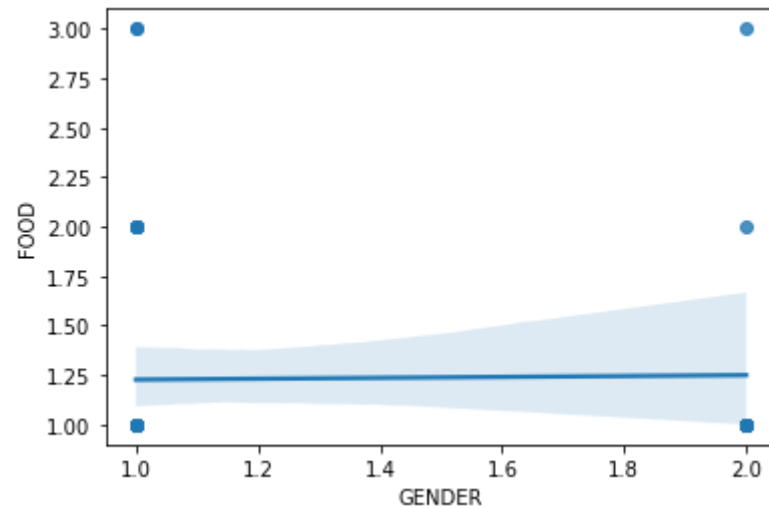
```
Out[36]: <AxesSubplot:xlabel='AGE', ylabel='FOOD'>
```



```
In [37]: import seaborn as sns
sns.regplot(x='GENDER',y='FOOD',data=df)
```

```
Out[37]: <AxesSubplot:xlabel='GENDER', ylabel='FOOD'>
```





```
In [38]: df.query('GENDER==1 and AGE==20',inplace=True)
print(df)
```

	Name	GENDER	AGE	FOOD	MUSIC
1	Sumanta karmakar	1	20	1	4
3	DEBASHISH MISHRA	1	20	2	4
12	Faizal Khan	1	20	1	7
15	Suvasish Jana	1	20	1	3
19	Subhadip Samanta	1	20	3	3
23	AVIJIT SANI	1	20	1	2
27	Nayan Bose	1	20	1	3
28	Sushil kumar Panjiyara	1	20	1	3
30	Kushal Kayal	1	20	1	3
31	Sanju Das	1	20	1	3
32	Md Sakib Reja	1	20	2	4
33	Sayak kar	1	20	1	3

```
In [39]: from sklearn.linear_model import LogisticRegression
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
from sklearn.datasets import load_iris
x=df2
y=df3
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.1)
clf=LogisticRegression()
```

```
clf.fit(x_train,y_train)
pred=clr.predict(x_test)
score=sklearn.metrics.accuracy_score(y_test,pred)
print(score)
```

0.6666666666666666

In [40]:

```
from sklearn.neural_network import MLPClassifier
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
from sklearn.datasets import load_iris
x=df2
y=df3
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.1)
clf=MLPClassifier(solver='lbfgs',hidden_layer_sizes=(10),alpha=0.001)
clf.fit(x_train,y_train)
pred=clr.predict(x_test)
score=sklearn.metrics.accuracy_score(y_test,pred)
print(score)
```

0.8333333333333334

In [ ]: