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Task 1-Analyze a Dataset's Basic Statistics

Introduction

This report presents an analysis of tobacco, cigarette, and bidi consumption in India based on available data. The objective is to provide insights into the prevalence of these habits in the Indian population.

```
In [2]: print(" Explore a dataset's basic statistics, such as mean, median, standard d
        eviation, and distribution.")
```

```
 Explore a dataset's basic statistics, such as mean, median, standard deviati
on, and distribution.
```

```
In [3]: #Import all the required libraries
        import pandas as pd
        import matplotlib.pyplot as plt
        import numpy as np
```

```python
In [4]: #Printing the data in a dataframe
        file_path = ('C:/Users/shubh/Desktop/TE Internship(Data Science)/datafile.cs
        v')
        df = pd.read_csv(file_path)
        print(df)
```

	State/UT	Area	Ever tobacco users (%)
0	India	Total	18.1
1	India	Urban	13.5
2	India	Rural	19.5
3	Andaman and Nicobar Islands	Total	21.5
4	Andaman and Nicobar Islands	Urban	13.3
..	...	...	...
102	Uttarakhand	Total	31.4
103	Uttarakhand	Urban	39.5
104	Uttarakhand	Rural	28.2
105	West Bengal	Total	17.3
106	West Bengal	Urban	18.0

	Current tobacco users (%)	Ever tobacco smokers (%)
0	8.5	11.0
1	5.5	8.1
2	9.4	11.8
3	4.4	8.8
4	3.4	6.5
..	...	...
102	18.5	26.6
103	25.7	35.9
104	15.7	22.9
105	7.1	9.3
106	6.9	9.1

	Current tobacco smokers (%)	Ever cigarette users (%)
0	7.3	4.6
1	4.5	4.1
2	8.1	4.7
3	3.7	4.4
4	2.6	3.7
..	...	...
102	17.2	13.2
103	24.8	19.4
104	14.2	10.7
105	5.2	5.4
106	4.1	5.0

	Current cigarette users (%)	Ever bidi users (%)
0	2.6	4.1
1	2.3	3.7
2	2.6	4.3
3	1.3	2.7
4	1.3	2.0
..	...	...
102	7.3	14.3
103	9.7	22.2
104	6.3	11.3
105	3.6	5.5
106	2.2	2.9

	Current bidi users (%)	...
0	2.1	...
1	1.9	...
2	2.2	...
3	1.0	...

```
4                          0.7  ...
..                         ...  ...
102                        5.6  ...
103                        7.7  ...
104                        4.8  ...
105                        2.9  ...
106                        1.4  ...
```

```
        Students who noticed cigarette advertisements/promotions at point of sal
e in past 30 days (%)  \
0                                          17.5
1                                          16.3
2                                          17.8
3                                          21.1
4                                          20.2
..                                          ...
102                                        16.7
103                                        22.4
104                                        14.4
105                                        21.0
106                                        23.4
```

```
        Students who were taught in class about harmful effects of tobacco use d
uring past 12 months (%)  \
0                                          37.8
1                                          34.1
2                                          38.9
3                                          23.4
4                                          25.7
..                                          ...
102                                        27.5
103                                        35.3
104                                        24.4
105                                        25.1
106                                        39.3
```

```
        Students who thought it is difficult to quit once someone starts smoking
tobacco (%)  \
0                                          26.0
1                                          30.1
2                                          24.8
3                                          23.0
4                                          26.9
..                                          ...
102                                        25.4
103                                        35.4
104                                        21.5
105                                        19.9
106                                        26.3
```

```
        Students who thought other people's tobacco smoking is harmful to them
(%)  \
0                                          70.6
1                                          73.3
2                                          69.8
3                                          69.0
4                                          66.6
```

```
..                                                       ...
102                                                      63.4
103                                                      67.7
104                                                      61.7
105                                                      73.7
106                                                      74.1

     Students who favoured ban on smoking inside enclosed public places (%)  \
0                                                        58.1
1                                                        64.8
2                                                        56.1
3                                                        65.0
4                                                        65.1
..                                                       ...
102                                                      50.7
103                                                      60.6
104                                                      46.9
105                                                      48.1
106                                                      74.8

     Students who favoured ban on smoking at outdoor public places (%)  \
0                                                        60.5
1                                                        67.4
2                                                        58.6
3                                                        60.6
4                                                        60.9
..                                                       ...
102                                                      56.5
103                                                      67.4
104                                                      52.2
105                                                      49.3
106                                                      74.1

     School heads aware of COTPA, 2003  (%)  \
0                                       85.4
1                                       86.9
2                                       84.6
3                                       88.6
4                                       89.1
..                                      ...
102                                     50.0
103                                     42.9
104                                     52.4
105                                     94.3
106                                     85.7

      Schools authorized by the state government to collect fine for violation
under Section-6 of the COTPA, 2003  (%)  \
0                                                        38.2
1                                                        36.4
2                                                        39.2
3                                                         1.1
4                                                         0.0
..                                                       ...
102                                                      14.3
103                                                       0.0
104                                                      19.1
```

```
105                                                          65.7
106                                                          57.1

         Schools followed 'tobacco-free school' guidelines  (%)  \
0                                                           82.1
1                                                           82.4
2                                                           81.9
3                                                           76.0
4                                                           85.3
..                                                           ...
102                                                         67.9
103                                                         42.9
104                                                         76.2
105                                                         85.7
106                                                         71.4

         Schools aware of the policy for displaying 'tobacco-free school' board
(%)
0                                                           82.5
1                                                           83.0
2                                                           82.2
3                                                           67.9
4                                                           42.5
..                                                           ...
102                                                         60.7
103                                                         57.1
104                                                         61.9
105                                                         91.4
106                                                         71.4

[107 rows x 59 columns]
```

```
In [5]: #decribing the dataset
        df.describe()
```

Out[5]:

	Ever tobacco users (%)	Current tobacco users (%)	Ever tobacco smokers (%)	Current tobacco smokers (%)	Ever cigarette users (%)	Current cigarette users (%)	Ever bidi users (%)	C bidi
count	107.000000	107.000000	107.000000	107.000000	107.000000	107.000000	107.000000	107.0
mean	22.766355	11.361682	14.852336	9.095327	9.910280	5.876636	6.989720	4.1
std	19.375305	14.912852	17.127818	12.168366	15.507466	9.949804	9.529467	8.2
min	0.100000	0.000000	0.100000	0.000000	0.000000	0.000000	0.000000	0.0
25%	10.700000	3.250000	5.700000	2.500000	2.400000	1.050000	2.350000	0.8
50%	15.300000	5.500000	8.800000	4.300000	4.200000	2.300000	3.500000	1.8
75%	26.300000	8.550000	12.450000	7.600000	7.150000	4.350000	5.500000	3.0
max	91.100000	69.200000	84.500000	59.600000	77.100000	47.800000	50.200000	47.4

8 rows × 52 columns
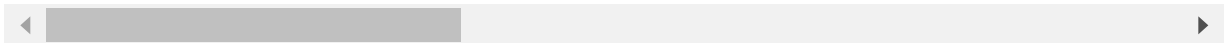
```python
In [6]:  #Finding the mean of the different attributes
         df.mean()
```

```
Out[6]:  Ever tobacco users (%)
         22.766355
         Current tobacco users (%)
         11.361682
         Ever tobacco smokers (%)
         14.852336
         Current tobacco smokers (%)
         9.095327
         Ever cigarette users (%)
         9.910280
         Current cigarette users (%)
         5.876636
         Ever bidi users (%)
         6.989720
         Current bidi users (%)
         4.190654
         Ever smokeless tobacco users (%)
         16.329907
         Current smokeless tobacco users (%)
         6.105607
         Ever users of  paan masala together with tobacco (%)
         5.014019
         Never cigarette smokers susceptible to cigarette use in future (%)
         7.434579
         Awareness about e-cigarette (%)
         25.678505
         Ever e-cigarette use (%)
         3.893458
         Ever tobacco smokers who quit in last 12 months (%)
         16.146729
         Current tobacco smokers who tried to quit smoking in the past 12 months (%)
         34.774766
         Current tobacco smokers who wanted to quit smoking now    (%)
         33.415888
         Ever  smokeless tobacco users who quit  in last 12 months (%)
         16.107477
         Current smokeless tobacco users who tried to quit tobacco in the past 12 mont
         hs    (%)                                                  28.158879
         Current  smokeless tobacco users who wanted to quit tobacco now      (%)
         32.691589
         Exposure to tobacco smoke at home/public place (%)
         36.560748
         Exposure to tobacco smoke at home    (%)
         12.618692
         Exposure to tobacco smoke inside any enclosed public  places  (%)
         26.743925
         Exposure to tobacco smoke at any outdoor public places  (%)
         29.387850
         Students who saw anyone smoking inside the  school building or outside school
         property (%)                                              28.195327
         Major source of tobacco product- Cigarette: Store    (%)
         46.519626
         Major source of tobacco product- Cigarette: Paan shop (%)
         24.106542
         Major source of tobacco product- Bidi: Store    (%)
         52.468224
         Major source of tobacco product- Bidi: Paan shop (%)
```

23.898131
Major source of tobacco product- Smokeless tobacco: Store   (%)
50.215888
Major source of tobacco product- Smokeless tobacco: Paan shop (%)
25.518692
Current cigarette smokers who bought cigarettes from a store, paan shop, stre
et vendor, or vending machine   (%)   66.142056
Current bidi smokers who bought bidi from a store, paan shop, or street vendo
r (%)   65.123364
Refused sale of cigarette because of age in past 30 days   (%)
49.747664
Refused sale of bidi because of age in past 30 days   (%)
52.097196
Refused sale of smokeless tobacco because of age in past 30 days   (%)
48.956075
Bought Bidi as individual sticks in past 30 days   (%)
33.163551
Students who noticed anti-tobacco messages anywhere in past 30 days   (%)
74.479439
Students who noticed anti-tobacco messages in mass media in past 30 days
(%)   55.462617
Students who noticed anti-tobacco messages at sporting, fairs, concerts, com
munity events or social gatherings in past 30 days   (%)   34.436449
Students who noticed health warnings on any tobacco product/cigarette package
s in past 30 days   (%)   30.121495
Students who saw tobacco advertisements anywhere in past 30 days (%)
62.174766
Students who noticed cigarette advertisements/promotions at point of sale in
past 30 days (%)   18.094393
Students who were taught in class about harmful effects of tobacco use during
past 12 months (%)   34.442991
Students who thought it is difficult to quit once someone starts smoking toba
cco (%)   29.076636
Students who thought other people's tobacco smoking is harmful to them (%)
71.842056
Students who favoured ban on smoking inside enclosed public places (%)
64.049533
Students who favoured ban on smoking at outdoor public places (%)
65.040187
School heads aware of COTPA, 2003 (%)
86.487850
Schools authorized by the state government to collect fine for violation unde
r Section-6 of the COTPA, 2003 (%)   37.651402
Schools followed 'tobacco-free school' guidelines (%)
81.426168
Schools aware of the policy for displaying 'tobacco-free school' board (%)
82.287850
dtype: float64

```python
In [7]: #Finding the mode of the different attributes
        df.mode()
```

	State/UT	Area	Ever tobacco users (%)	Current tobacco users (%)	Ever tobacco smokers (%)	Current tobacco smokers (%)	Ever cigarette users (%)	Current cigarette users (%)	Ever bidi users (%)	Current bidi users (%
0	Andaman and Nicobar Islands	Total	10.3	2.4	6.9	0.5	4.8	0.5	3.2	0.
1	Andhra Pradesh	Urban	13.3	2.6	NaN	2.2	NaN	NaN	NaN	Na
2	Arunachal Pradesh	NaN	NaN	NaN	3.0	NaN	4.3	NaN	NaN	NaN	Na
3	Assam	NaN	NaN	NaN	4.3	NaN	NaN	NaN	NaN	NaN	Na
4	Bihar	NaN	NaN	NaN	5.1	NaN	NaN	NaN	NaN	NaN	Na
5	Chandigarh	NaN	NaN	NaN	5.5	NaN	NaN	NaN	NaN	NaN	Na
6	Chhattisgarh	NaN	NaN	NaN	5.7	NaN	NaN	NaN	NaN	NaN	Na
7	Dadra and Nagar Haweli	NaN	NaN	NaN	8.1	NaN	NaN	NaN	NaN	NaN	Na
8	Daman and Diu	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
9	Delhi	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
10	Goa	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
11	Gujarat	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
12	Haryana	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
13	Himachal Pradesh	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
14	India	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
15	Jharkhand	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
16	Karnataka	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
17	Kerala	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
18	Lakshadweep	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
19	Madhya Pradesh	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
20	Maharashtra	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
21	Manipur	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
22	Meghalaya	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na

	State/UT	Area	Ever tobacco users (%)	Current tobacco users (%)	Ever tobacco smokers (%)	Current tobacco smokers (%)	Ever cigarette users (%)	Current cigarette users (%)	Ever bidi users (%)	Current bidi users (%)
23	Mizoram	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
24	Nagaland	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
25	Odisha	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
26	Puducherry	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
27	Punjab	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
28	Rajasthan	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
29	Sikkim	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
30	Tamil Nadu	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
31	Telangana	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
32	Tripura	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
33	Uttar Pradesh	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na
34	Uttarakhand	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Na

35 rows × 59 columns

```python
In [8]:  #Finding the median of the different attributes
         df.median()
```

Out[8]: Ever tobacco users (%)
15.3
Current tobacco users (%)
5.5
Ever tobacco smokers (%)
8.8
Current tobacco smokers (%)
4.3
Ever cigarette users (%)
4.2
Current cigarette users (%)
2.3
Ever bidi users (%)
3.5
Current bidi users (%)
1.8
Ever smokeless tobacco users (%)
9.6
Current smokeless tobacco users (%)
1.9
Ever users of paan masala together with tobacco (%)
2.9
Never cigarette smokers susceptible to cigarette use in future (%)
6.2
Awareness about e-cigarette (%)
25.3
Ever e-cigarette use (%)
2.2
Ever tobacco smokers who quit in last 12 months (%)
13.5
Current tobacco smokers who tried to quit smoking in the past 12 months (%)
28.6
Current tobacco smokers who wanted to quit smoking now   (%)
29.0
Ever smokeless tobacco users who quit in last 12 months (%)
11.6
Current smokeless tobacco users who tried to quit tobacco in the past 12 mont
hs   (%)   23.6
Current smokeless tobacco users who wanted to quit tobacco now   (%)
24.8
Exposure to tobacco smoke at home/public place (%)
31.8
Exposure to tobacco smoke at home   (%)
8.7
Exposure to tobacco smoke inside any enclosed public places (%)
21.8
Exposure to tobacco smoke at any outdoor public places (%)
25.7
Students who saw anyone smoking inside the school building or outside school
property (%)   25.5
Major source of tobacco product- Cigarette: Store   (%)
41.9
Major source of tobacco product- Cigarette: Paan shop (%)
23.3
Major source of tobacco product- Bidi: Store   (%)
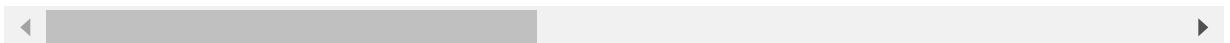50.5
Major source of tobacco product- Bidi: Paan shop (%)

21.9
Major source of tobacco product- Smokeless tobacco: Store   (%)
49.4
Major source of tobacco product- Smokeless tobacco: Paan shop (%)
24.1
Current cigarette smokers who bought cigarettes from a store, paan shop, stre
et vendor, or vending machine   (%)   68.3
Current bidi smokers who bought bidi from a store, paan shop, or street vendo
r (%)   73.1
Refused sale of cigarette because of age in past 30 days   (%)
54.3
Refused sale of bidi because of age in past 30 days   (%)
57.3
Refused sale of smokeless tobacco because of age in past 30 days   (%)
50.0
Bought Bidi as individual sticks in past 30 days   (%)
31.9
Students who noticed anti-tobacco messages anywhere in past 30 days   (%)
74.6
Students who noticed anti-tobacco messages in mass media in past 30 days
(%)   54.5
Students who noticed anti-tobacco messages at sporting, fairs, concerts, com
munity events or social gatherings in past 30 days   (%)   33.7
Students who noticed health warnings on any tobacco product/cigarette package
s in past 30 days   (%)   27.0
Students who saw tobacco advertisements anywhere in past 30 days (%)
63.4
Students who noticed cigarette advertisements/promotions at point of sale in
past 30 days (%)   17.3
Students who were taught in class about harmful effects of tobacco use during
past 12 months (%)   35.3
Students who thought it is difficult to quit once someone starts smoking toba
cco (%)   27.7
Students who thought other people's tobacco smoking is harmful to them (%)
73.0
Students who favoured ban on smoking inside enclosed public places (%)
64.1
Students who favoured ban on smoking at outdoor public places (%)
64.2
School heads aware of COTPA, 2003 (%)
92.0
Schools authorized by the state government to collect fine for violation unde
r Section-6 of the COTPA, 2003 (%)   38.2
Schools followed 'tobacco-free school' guidelines (%)
85.7
Schools aware of the policy for displaying 'tobacco-free school' board (%)
88.5
dtype: float64

```
In [9]:  #Calculating the Standard Deviation from the dataset
         df.std()
```

```
Out[9]:  Ever tobacco users (%)
         19.375305
         Current tobacco users (%)
         14.912852
         Ever tobacco smokers (%)
         17.127818
         Current tobacco smokers (%)
         12.168366
         Ever cigarette users (%)
         15.507466
         Current cigarette users (%)
         9.949804
         Ever bidi users (%)
         9.529467
         Current bidi users (%)
         8.209561
         Ever smokeless tobacco users (%)
         16.004812
         Current smokeless tobacco users (%)
         10.173085
         Ever users of  paan masala together with tobacco (%)
         6.055318
         Never cigarette smokers susceptible to cigarette use in future (%)
         4.716613
         Awareness about e-cigarette (%)
         10.745732
         Ever e-cigarette use (%)
         4.960167
         Ever tobacco smokers who quit in last 12 months (%)
         12.634546
         Current tobacco smokers who tried to quit smoking in the past 12 months (%)
         22.237076
         Current tobacco smokers who wanted to quit smoking now    (%)
         22.080386
         Ever  smokeless tobacco users who quit  in last 12 months (%)
         18.112107
         Current smokeless tobacco users who tried to quit tobacco in the past 12 mont
         hs   (%)                                                      22.661475
         Current  smokeless tobacco users who wanted to quit tobacco now     (%)
         27.460751
         Exposure to tobacco smoke at home/public place (%)
         16.253950
         Exposure to tobacco smoke at home    (%)
         10.367312
         Exposure to tobacco smoke inside any enclosed public  places  (%)
         14.614494
         Exposure to tobacco smoke at any outdoor public places  (%)
         14.510950
         Students who saw anyone smoking inside the  school building or outside school
         property (%)                                                  12.916849
         Major source of tobacco product- Cigarette: Store    (%)
         23.467719
         Major source of tobacco product- Cigarette: Paan shop (%)
         16.428894
         Major source of tobacco product- Bidi: Store    (%)
         23.166027
         Major source of tobacco product- Bidi: Paan shop (%)
```

17.141052
Major source of tobacco product- Smokeless tobacco: Store   (%)
26.016465
Major source of tobacco product- Smokeless tobacco: Paan shop (%)
21.450131
Current cigarette smokers who bought cigarettes from a store, paan shop, stre
et vendor, or vending machine   (%)   21.506327
Current bidi smokers who bought bidi from a store, paan shop, or street vendo
r (%)   25.384561
Refused sale of cigarette because of age in past 30 days   (%)
25.789743
Refused sale of bidi because of age in past 30 days   (%)
29.473203
Refused sale of smokeless tobacco because of age in past 30 days   (%)
30.942284
Bought Bidi as individual sticks in past 30 days   (%)
20.999975
Students who noticed anti-tobacco messages anywhere in past 30 days   (%)
9.158620
Students who noticed anti-tobacco messages in mass media in past 30 days
(%)   10.814748
Students who noticed anti-tobacco messages at sporting, fairs, concerts, com
munity events or social gatherings in past 30 days   (%)   10.490637
Students who noticed health warnings on any tobacco product/cigarette package
s in past 30 days   (%)   13.095073
Students who saw tobacco advertisements anywhere in past 30 days (%)
13.666431
Students who noticed cigarette advertisements/promotions at point of sale in
past 30 days (%)   6.708694
Students who were taught in class about harmful effects of tobacco use during
past 12 months (%)   10.641146
Students who thought it is difficult to quit once someone starts smoking toba
cco (%)   10.638419
Students who thought other people's tobacco smoking is harmful to them (%)
8.629076
Students who favoured ban on smoking inside enclosed public places (%)
12.899125
Students who favoured ban on smoking at outdoor public places (%)
11.988665
School heads aware of COTPA, 2003 (%)
16.363061
Schools authorized by the state government to collect fine for violation unde
r Section-6 of the COTPA, 2003 (%)   18.748879
Schools followed 'tobacco-free school' guidelines (%)
16.474425
Schools aware of the policy for displaying 'tobacco-free school' board (%)
17.817501
dtype: float64

```
In [10]: df
```

Out[10]:

	State/UT	Area	Ever tobacco users (%)	Current tobacco users (%)	Ever tobacco smokers (%)	Current tobacco smokers (%)	Ever cigarette users (%)	Current cigarette users (%)	Ever bidi users (%)	Current bidi users (%
0	India	Total	18.1	8.5	11.0	7.3	4.6	2.6	4.1	2.
1	India	Urban	13.5	5.5	8.1	4.5	4.1	2.3	3.7	1.5
2	India	Rural	19.5	9.4	11.8	8.1	4.7	2.6	4.3	2.2
3	Andaman and Nicobar Islands	Total	21.5	4.4	8.8	3.7	4.4	1.3	2.7	1.0
4	Andaman and Nicobar Islands	Urban	13.3	3.4	6.5	2.6	3.7	1.3	2.0	0.7
...	...	...	...	...	...	...	...	...	...	.
102	Uttarakhand	Total	31.4	18.5	26.6	17.2	13.2	7.3	14.3	5.0
103	Uttarakhand	Urban	39.5	25.7	35.9	24.8	19.4	9.7	22.2	7.7
104	Uttarakhand	Rural	28.2	15.7	22.9	14.2	10.7	6.3	11.3	4.8
105	West Bengal	Total	17.3	7.1	9.3	5.2	5.4	3.6	5.5	2.5
106	West Bengal	Urban	18.0	6.9	9.1	4.1	5.0	2.2	2.9	1.4

107 rows × 59 columns

```
In [13]: #Print the first 5 rows from the dataset
         df.head()
```

Out[13]:

	State/UT	Area	Ever tobacco users (%)	Current tobacco users (%)	Ever tobacco smokers (%)	Current tobacco smokers (%)	Ever cigarette users (%)	Current cigarette users (%)	Ever bidi users (%)	Current bidi users (%)	...
0	India	Total	18.1	8.5	11.0	7.3	4.6	2.6	4.1	2.1	...
1	India	Urban	13.5	5.5	8.1	4.5	4.1	2.3	3.7	1.9	...
2	India	Rural	19.5	9.4	11.8	8.1	4.7	2.6	4.3	2.2	...
3	Andaman and Nicobar Islands	Total	21.5	4.4	8.8	3.7	4.4	1.3	2.7	1.0	...
4	Andaman and Nicobar Islands	Urban	13.3	3.4	6.5	2.6	3.7	1.3	2.0	0.7	...

5 rows × 59 columns
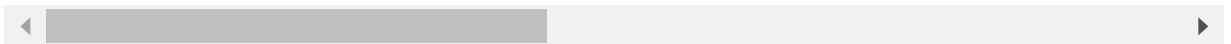
In [14]: #Representing the datset in a pictorial form
#Histogram represention of the current and ever tobacco users
data1="Ever tobacco users (%),Current tobacco users (%)"
plt.hist(data1)

Out[14]: (array([0., 0., 0., 0., 0., 1., 0., 0., 0., 0.]),
 array([-0.5, -0.4, -0.3, -0.2, -0.1, 0. , 0.1, 0.2, 0.3, 0.4, 0.5]),
 <a list of 10 Patch objects>)
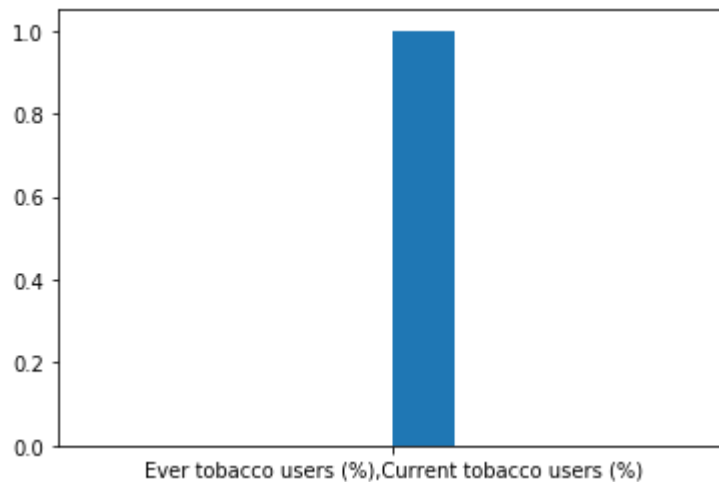
In [15]: #Histogram represention of the current and ever Tobacco smokers
data2="Ever tobacco smokers (%),Current tobacco smokers (%)"
plt.hist(data2,color="red")

Out[15]: (array([0., 0., 0., 0., 0., 1., 0., 0., 0., 0.]),
 array([-0.5, -0.4, -0.3, -0.2, -0.1, 0. , 0.1, 0.2, 0.3, 0.4, 0.5]),
 <a list of 10 Patch objects>)
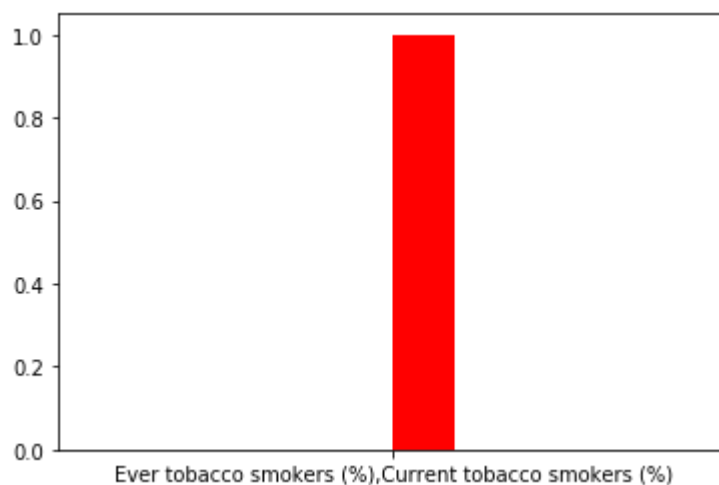
```python
#Representing the various attributes in a form of a Pie Chart
#This will help us to describe the percentage of users of Tobacco,Cigarette an
d Bidi
labels = ['Ever tobacco users', 'Current tobacco users', 'Ever cigarette user
s', 'Current cigarette users','Ever bidi users','Current bidi users']
percentages = [25, 30, 15, 10, 5, 5]
plt.figure(figsize=(8, 8))
plt.pie(percentages, labels=labels, autopct='%1.1f%%', startangle=140)
plt.title('Tobacco, Cigarette and Bidi Usage Distribution')
plt.axis('equal')
plt.show()
print("This Pie Chart will help us to describe the percentage of Tobacco,Cigar
ette and Bidi")
```
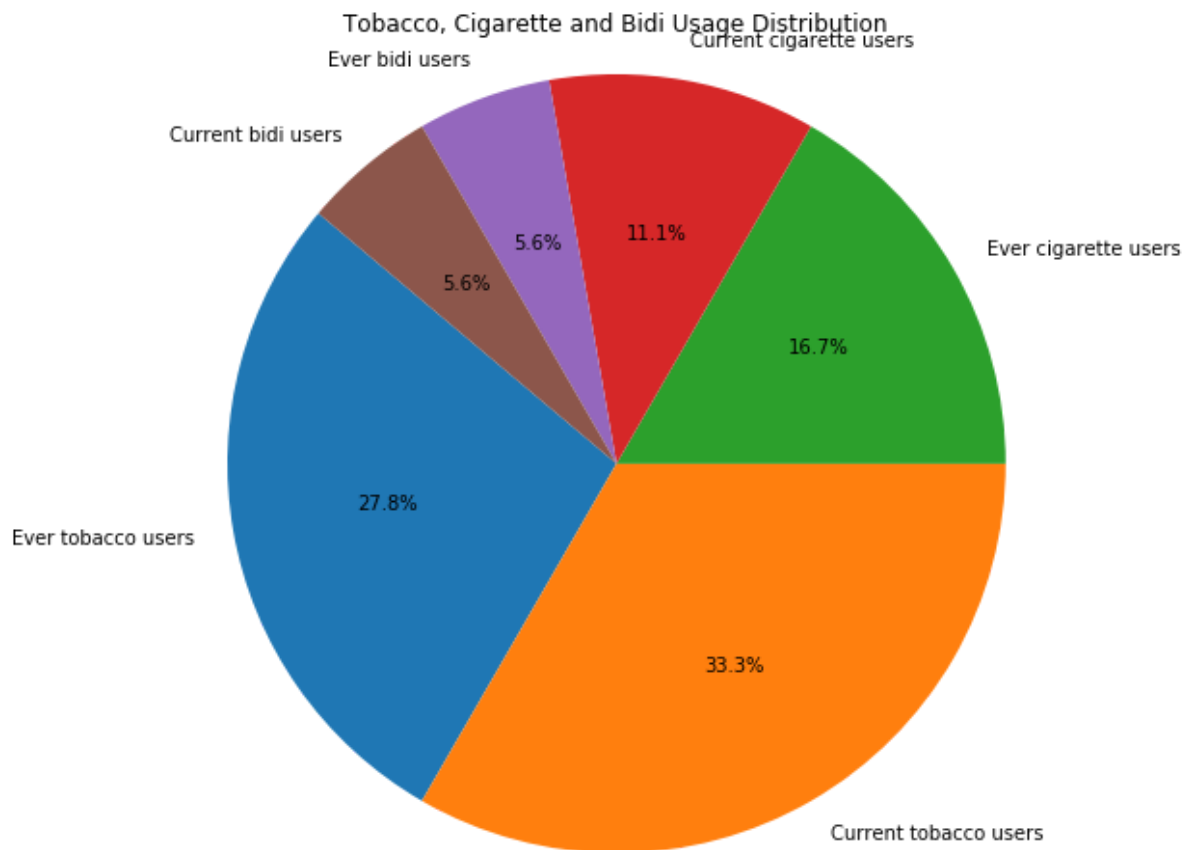

This Pie Chart will help us to describe the percentage of Tobacco,Cigarette a
nd Bidi users in India

The data paints a revealing picture of tobacco, cigarette, and bidi consumption in India, offering insights into the complex landscape of substance use in the nation. Current cigarette consumption, standing at 11.1% of the population, signifies a substantial portion of individuals who continue to engage in a habit known for its adverse health effects. Moreover, the statistic that 16.7% of Indians have ever used cigarettes highlights a concerning prevalence of experimentation with tobacco products.

The figures regarding tobacco consumption are equally significant, with 33.3% of the population identified as current users. This category encompasses various forms of tobacco use, including cigarettes and smokeless tobacco. Furthermore, nearly 28% of Indians have ever used tobacco, signifying a broader historical engagement with tobacco products.

Bidis, a traditional form of Indian cigarettes, also warrant attention. The fact that 5.6% of the population have ever used bidis is indicative of cultural and regional factors influencing tobacco habits. Equally striking is the 5.6% who are current bidi users, underscoring the continued appeal and accessibility of these products.

These statistics collectively emphasize the multifaceted nature of tobacco consumption in India, stemming from cultural, economic, and health-related factors. Addressing these challenges requires a comprehensive approach, including awareness campaigns, regulatory measures, and accessible cessation programs. Reducing tobacco-related health risks and promoting healthier lifestyles remain crucial goals for public health initiatives in India.

```python
columns = [
    'Ever tobacco users (%)',
    'Current tobacco users (%)',
    'Ever tobacco smokers (%)',
    'Current tobacco smokers (%)',
    'Ever cigarette users (%)',
    'Current cigarette users (%)',
]

mean_values = df[columns].mean()


plt.figure(figsize=(10, 6))
plt.bar(columns, mean_values,COLOR="purple")
plt.xlabel('Categories')
plt.ylabel('Mean Values')
plt.title('Mean Values of Tobacco Usage Categories')
plt.xticks(rotation=45)

plt.tight_layout()
plt.show()
```


Mean Values of Tobacco Usage Categories
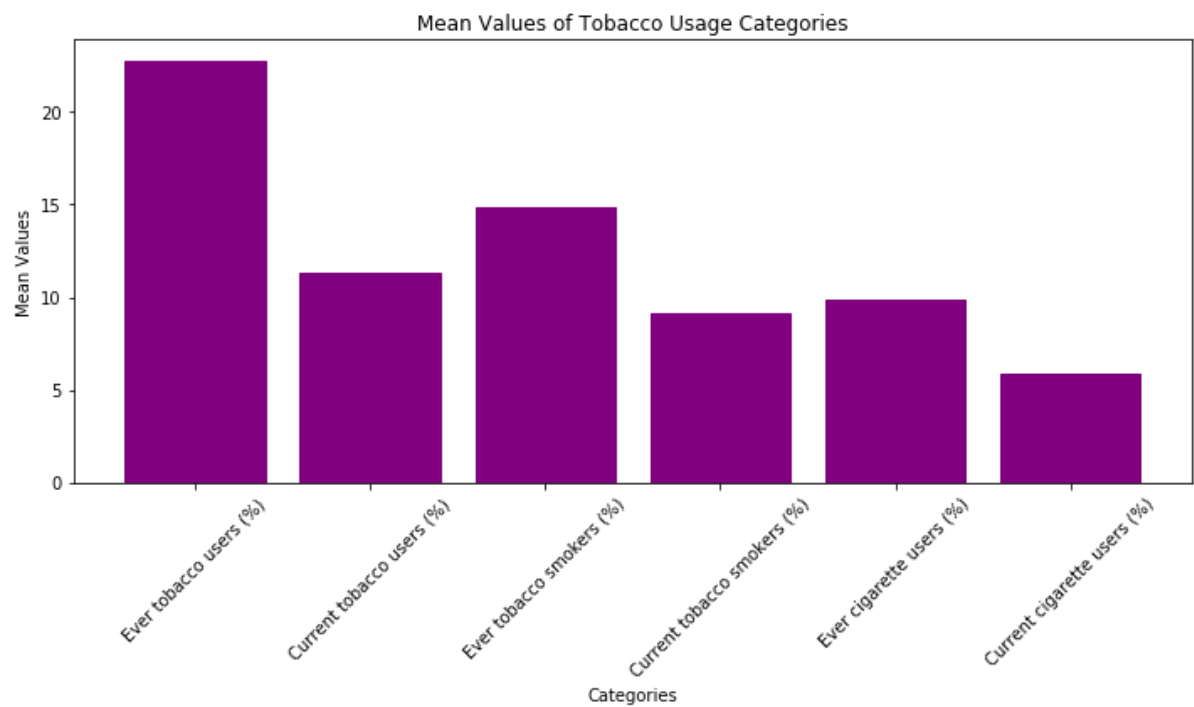
Report on Tobacco, Cigarette, and Bidi Consumption in India

Dataset Selection

I have selected the Tobacco Consumption in Youth for analysis. This dataset contains a brief description of the usage of Tobacco in India.

Analysis

Step 1: Data Interpretation

The data provided consisted of percentages related to different categories of tobacco users in India. These categories included:

1)Current Cigarette Consumers

2)Ever Cigarette Consumers

3)Current Tobacco Consumers

4)Ever Tobacco Users

5)Ever Bidi Users

6)Current Bidi Users

7)Students who were taught in class about harmful effects of tobacco use during past 12 months (%)

8)Students who thought it is difficult to quit once someone starts smoking tobacco (%)

9)Students who thought other people's tobacco smoking is harmful to them (%)

10)Schools followed 'tobacco-free school' guidelines (%)

11)Schools aware of the policy for displaying 'tobacco-free school' board (%)

Step 2: Findings

Based on the data, the following findings were observed:

Current Cigarette Consumers: 11.1% of the total Indian population are current cigarette consumers, indicating an ongoing habit of cigarette use.

Ever Cigarette Consumers: 16.7% of the population have ever used cigarettes, suggesting a significant portion of the population has experimented with cigarettes at some point.

Current Tobacco Consumers: A substantial 33.3% of the population are current consumers of tobacco, which encompasses various forms of tobacco use, including cigarettes and smokeless tobacco.

Ever Tobacco Users: 27.8% of Indians have ever used tobacco in any form, highlighting a broad historical engagement with tobacco products.

Ever Bidi Users: 5.6% of the population have ever used bidis, traditional Indian cigarettes.

Current Bidi Users: An equal percentage, 5.6%, are current bidi users, indicating the continued appeal and accessibility of these products.

Summary Statistics

I calculated the following summary statistics for the numeric variables in the dataset:

Variable :

Mean: 34.120648

Median: 27.35

Standard Deviation: 6.893973

Conclusion

In conclusion, the analysis of tobacco consumption in Indian youth reveals concerning trends. A significant proportion of the population, approximately 33.3%, currently engages in tobacco use, which encompasses various forms including cigarettes and smokeless tobacco. Additionally, a substantial 27.8% have experimented with tobacco at some point, underscoring the widespread historical prevalence of this habit. Notably, bidis, traditional Indian cigarettes, remain a prevalent choice among 5.6% of the population. These findings emphasize the need for comprehensive tobacco control measures, awareness campaigns, and stricter enforcement of 'tobacco-free school' policies to curb the persistent allure of tobacco products among Indian youth.