### **Importing Necessary Libraries**

```
import numpy as np
In [1]:
            import pandas as pd
            import matplotlib.pyplot as plt
            import seaborn as sns
In [4]:
          ▶ sns.get_dataset_names()
   Out[4]: ['anagrams',
              'anscombe',
              'attention',
              'brain_networks',
              'car_crashes',
              'diamonds',
              'dots',
              'dowjones',
              'exercise',
              'flights',
              'fmri',
              'geyser',
              'glue',
              'healthexp',
              'iris',
              'mpg',
              'penguins',
              'planets',
              'seaice',
              'taxis',
              'tips',
              'titanic']
In [5]:
          dataset=sns.load_dataset("car_crashes")
```

In [6]: ► dataset

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v	ut		

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses	abbrev
0	18.8	7.332	5.640	18.048	15.040	784.55	145.08	AL
1	18.1	7.421	4.525	16.290	17.014	1053.48	133.93	AK
2	18.6	6.510	5.208	15.624	17.856	899.47	110.35	AZ
3	22.4	4.032	5.824	21.056	21.280	827.34	142.39	AR
4	12.0	4.200	3.360	10.920	10.680	878.41	165.63	CA
5	13.6	5.032	3.808	10.744	12.920	835.50	139.91	CO
6	10.8	4.968	3.888	9.396	8.856	1068.73	167.02	СТ
7	16.2	6.156	4.860	14.094	16.038	1137.87	151.48	DE
8	5.9	2.006	1.593	5.900	5.900	1273.89	136.05	DC
9	17.9	3.759	5.191	16.468	16.826	1160.13	144.18	FL
10	15.6	2.964	3.900	14.820	14.508	913.15	142.80	GA
11	17.5	9.450	7.175	14.350	15.225	861.18	120.92	HI
12	15.3	5.508	4.437	13.005	14.994	641.96	82.75	ID
13	12.8	4.608	4.352	12.032	12.288	803.11	139.15	IL
14	14.5	3.625	4.205	13.775	13.775	710.46	108.92	IN
15	15.7	2.669	3.925	15.229	13.659	649.06	114.47	IA
16	17.8	4.806	4.272	13.706	15.130	780.45	133.80	KS
17	21.4	4.066	4.922	16.692	16.264	872.51	137.13	KY
18	20.5	7.175	6.765	14.965	20.090	1281.55	194.78	LA
19	15.1	5.738	4.530	13.137	12.684	661.88	96.57	ME
20	12.5	4.250	4.000	8.875	12.375	1048.78	192.70	MD
21	8.2	1.886	2.870	7.134	6.560	1011.14	135.63	MA
22	14.1	3.384	3.948	13.395	10.857	1110.61	152.26	MI
23	9.6	2.208	2.784	8.448	8.448	777.18	133.35	MN
24	17.6	2.640	5.456	1.760	17.600	896.07	155.77	MS
25	16.1	6.923	5.474	14.812	13.524	790.32	144.45	МО
26	21.4	8.346	9.416	17.976	18.190	816.21	85.15	MT
27	14.9	1.937	5.215	13.857	13.410	732.28	114.82	NE
28	14.7	5.439	4.704	13.965	14.553	1029.87	138.71	NV
29	11.6	4.060	3.480	10.092	9.628	746.54	120.21	NH
30	11.2	1.792	3.136	9.632	8.736	1301.52	159.85	NJ
31	18.4	3.496	4.968	12.328	18.032	869.85	120.75	NM
32	12.3	3.936	3.567	10.824	9.840	1234.31	150.01	NY
33	16.8	6.552	5.208	15.792	13.608	708.24	127.82	NC
34	23.9	5.497	10.038	23.661	20.554	688.75	109.72	ND
35	14.1	3.948	4.794	13.959	11.562	697.73	133.52	ОН

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses	abbrev
36	19.9	6.368	5.771	18.308	18.706	881.51	178.86	OK
37	12.8	4.224	3.328	8.576	11.520	804.71	104.61	OR
38	18.2	9.100	5.642	17.472	16.016	905.99	153.86	PA
39	11.1	3.774	4.218	10.212	8.769	1148.99	148.58	RI
40	23.9	9.082	9.799	22.944	19.359	858.97	116.29	SC
41	19.4	6.014	6.402	19.012	16.684	669.31	96.87	SD
42	19.5	4.095	5.655	15.990	15.795	767.91	155.57	TN
43	19.4	7.760	7.372	17.654	16.878	1004.75	156.83	TX
44	11.3	4.859	1.808	9.944	10.848	809.38	109.48	UT
45	13.6	4.080	4.080	13.056	12.920	716.20	109.61	VT
46	12.7	2.413	3.429	11.049	11.176	768.95	153.72	VA
47	10.6	4.452	3.498	8.692	9.116	890.03	111.62	WA
48	23.8	8.092	6.664	23.086	20.706	992.61	152.56	WV
49	13.8	4.968	4.554	5.382	11.592	670.31	106.62	WI
50	17.4	7.308	5.568	14.094	15.660	791.14	122.04	WY

In [7]: ▶ dataset.shape

Out[7]: (51, 8)

In [8]: ► dataset.head()

Out[8]: total speeding alcohol not\_distracted no\_previous ins\_premium ins\_losses abbrev 18.8 0 7.332 5.640 18.048 15.040 784.55 145.08  $\mathsf{AL}$ 1 18.1 7.421 4.525 16.290 17.014 1053.48 133.93  $\mathsf{AK}$ 2 18.6 6.510 5.208 15.624 17.856 899.47 110.35 ΑZ 22.4 3 4.032 5.824 21.056 21.280 827.34 142.39 AR 12.0 4.200 878.41 165.63 CA 3.360 10.920 10.680

# In [9]: ► dataset.tail()

Out[

9]:		total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses	abbrev
	46	12.7	2.413	3.429	11.049	11.176	768.95	153.72	VA
	47	10.6	4.452	3.498	8.692	9.116	890.03	111.62	WA
	48	23.8	8.092	6.664	23.086	20.706	992.61	152.56	WV
	49	13.8	4.968	4.554	5.382	11.592	670.31	106.62	WI
	50	17.4	7.308	5.568	14.094	15.660	791.14	122.04	WY

# In [10]: ► dataset.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51 entries, 0 to 50

Data columns (total 8 columns):

#	Column	Non-Null Count	Dtype
0	total	51 non-null	float64
1	speeding	51 non-null	float64
2	alcohol	51 non-null	float64
3	<pre>not_distracted</pre>	51 non-null	float64
4	no_previous	51 non-null	float64
5	ins_premium	51 non-null	float64
6	ins_losses	51 non-null	float64
7	abbrev	51 non-null	object

dtypes: float64(7), object(1)

memory usage: 3.3+ KB

In [11]: ► dataset.info

Record   R	Out[11]:	<bour< th=""><th></th><th></th><th>me.info of</th><th>total spee</th><th>ding alcohol</th><th>not_distra</th></bour<>			me.info of	total spee	ding alcohol	not_distra
1 18.1 7, 421 4,525 16,290 17,014 1053,48 2 18.6 6,510 5,208 15,624 17,856 899.47 3 22.4 4,032 5,824 21,055 21,280 827,34 4 12.0 4,200 3,360 10,920 10,680 878,41 5 13.6 5,032 3,808 10,744 12,920 835,50 6 10.8 4,968 3,888 9,396 8,856 1068,73 7 16.2 6,156 4,860 14,094 16,038 1137,87 8 5.9 2,006 1,593 5,900 5,900 1273,89 9 17.9 3,759 5,191 16,468 16,826 1160,13 10 15,6 2,964 3,900 14,820 14,508 913,15 11 17.5 9,450 7,175 14,350 15,225 861,18 12 15.3 5,508 4,437 13,005 14,994 641,96 13 12,8 4,608 4,352 12,032 12,288 803,11 14 14,5 3,625 4,205 13,775 13,775 710,46 15 15,7 2,669 3,925 15,229 13,659 649,06 16 17.8 4,806 4,272 13,706 15,130 780,45 17 21,4 4,066 4,922 16,692 16,592 13,659 649,06 16 17.8 4,806 4,272 13,706 15,130 780,45 17 21,4 4,066 4,922 16,692 16,264 872,51 18 20,5 7,175 6,765 14,965 20,090 1281,55 19 15,1 5,738 4,530 13,137 12,684 661,88 20 12,5 4,250 4,000 8,875 12,375 1048,78 21 8,2 1,886 2,870 7,134 6,560 1011,14 22 14,1 3,384 3,948 13,395 10,857 1110,61 23 9,6 2,208 2,784 8,448 8,448 8,448 777,18 24 17,6 2,640 5,456 1,760 17,600 896,07 25 16,1 6,923 5,474 14,812 13,524 790,32 26 21,4 8,346 9,416 17,976 18,199 816,21 27 14,9 1,937 5,215 13,857 13,410 732,28 28 14,7 6,543 6,406 1,406 13,489 10,892 9,628 746,54 30 11,2 1,792 3,136 9,632 18,593 13,595 14,593 86,07 25 16,1 6,923 5,474 14,812 13,524 790,32 26 21,4 8,346 9,416 17,976 18,199 816,21 37 1,6 4,060 3,480 10,092 9,628 746,54 30 11,2 1,792 3,136 9,632 18,092 9,628 746,54 30 11,2 1,792 3,136 9,632 18,095 14,553 109,875 1110,61 31 18,4 3,496 4,968 12,328 18,032 869,85 32 12,3 3,936 3,567 10,824 19,849 11,592 670,73 31 18,4 4,244 3,349 11,295 11,592 670,73 31 18,4 4,260 7,372 11,640 11,649 11,176 768,95 34 11,3 7,74 4,218 10,212 8,769 1148,99 34 11,1 3,774 4,218 10,212 8,769 1148,99 34 11,1 3,774 4,218 10,212 8,769 1148,99 34 11,1 3,774 4,218 10,212 8,769 1148,99 34 11,1 3,496 4,564 2,000 13,880 13,662 2,000 9,92,61 34 23,8 8,092 6,664 23,086 20,706 992,61					<del></del>	10 040	15 040	704 55
2         18.6         6.510         5.208         15.624         17.856         899.47           3         22.4         4.032         5.824         21.056         21.280         827.34           4         12.0         4.200         3.360         10.920         10.680         878.41           5         13.6         5.032         3.808         10.744         12.920         835.50           6         10.8         4.968         3.888         9.396         8.856         108.873           7         16.2         6.156         4.860         14.094         16.038         1137.87           8         5.9         2.066         1.593         5.900         1273.89           9         17.9         3.759         5.191         16.468         16.826         1160.13           10         15.6         2.964         3.900         14.820         14.508         913.15           11         17.5         9.450         7.175         14.350         15.225         861.18           12         15.3         5.508         4.437         13.065         14.994         641.96           13         12.8         4.608         4.352 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
3 22.4 4, 0.32 5, 824 21, 0.56 21, 2.80 827, 34 4 12.0 4, 2.00 3, 3.60 10, 920 10, 6.80 878, 41 5 13.6 5, 0.92 3, 8.08 10, 744 12, 920 835, 50 6 10.8 4, 9.68 3, 8.88 9, 3.96 8, 8.56 1068, 73 7 16.2 6, 1.56 4, 8.60 14, 0.94 16, 0.38 1137, 87 8 5.9 2, 0.06 1, 5.93 5, 900 5, 900 1273, 89 9 17.9 3, 7.59 5, 1.51 16, 4.88 16, 8.26 1160, 13 10 15.6 2, 9.64 3, 9.00 14, 8.20 14, 5.08 913, 15 11 17.5 9, 4.50 7, 1.75 14, 3.50 15, 2.25 861, 18 12 15.3 5, 5.08 4, 4.37 13, 0.05 14, 9.94 641, 9.6 13 12.8 4, 6.08 4, 4.352 12, 0.32 12, 2.88 803, 11 14 14.5 3, 6.25 4, 2.05 13, 7.75 13, 7.75 710, 4.6 15 15, 7, 2.669 3, 9.25 15, 2.29 13, 6.59 649, 0.6 16 17.8 4, 8.06 4, 2.72 13, 7.06 15, 130 780, 45 17 21.4 4, 0.06 4, 2.92 16, 6.92 16, 6.92 16, 2.64 872, 51 18 20.5 7, 1.75 6, 7.65 14, 9.65 20, 0.99 1281, 55 19 15.1 5, 7.38 4, 5.30 13, 1.37 12, 6.84 661, 88 20 12, 5 4, 2.50 4, 0.00 8, 8.875 12, 3.75 104, 87 21 8, 2 1, 8.86 2, 8.70 7, 1.34 6, 5.60 1011, 14 22 14, 1 3, 3.84 3, 948 13, 3.95 10, 837 110, 61 23 9, 6 2, 2.08 2, 7.84 8, 448 8, 448 77, 18 24 17, 6 2, 6.40 5, 4.56 1, 7.50 1, 7.50 1, 6.90 386, 0.7 25 16, 1 6, 9.23 5, 4.74 14, 812 13, 5.24 99, 32 26 21, 4 8, 3.46 9, 4.16 17, 9.76 18, 1.90 816, 21 27 14, 9 1, 9.37 5, 2.15 13, 857 13, 410 732, 2.8 28 14, 7 5, 4.39 4, 7.40 13, 9.65 14, 5.53 10, 1.52 31 18, 4 3, 4.60 3, 4.80 10, 0.92 9, 6.28 746, 54 30 11, 2 1, 7.92 3, 13.6 9, 6.32 8, 7.36 1301, 52 31 18, 4 3, 4.60 4, 9.68 12, 3.28 18, 0.92 9, 6.28 746, 54 30 11, 2 1, 7.92 3, 13.6 9, 6.32 8, 7.36 1301, 52 31 18, 4 3, 4.60 4, 9.68 12, 3.28 8, 5.76 11, 5.20 804, 71 31 18, 4 3, 4.60 4, 9.68 12, 3.28 18, 0.92 9, 6.28 746, 54 30 11, 2 1, 7.92 3, 13.6 9, 6.32 8, 7.36 1301, 52 31 18, 4 3, 4.60 4, 9.68 12, 3.28 8, 5.76 11, 5.20 804, 71 31 18, 4 3, 4.60 6, 5.65 5, 5.08 15, 7.92 13, 6.08 76, 73 31 18, 4 3, 4.60 6, 6.40 13, 9.65 14, 5.53 10, 9.75 33 31 18, 4 3, 4.60 6, 6.40 13, 9.63 11, 1.77 11, 1.70 6, 1.80 10, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70 11, 1.70								
4         12.0         4.200         3.360         10.920         10.680         878.41           5         13.6         5.032         3.808         10.744         12.920         835.50           6         10.8         4.968         3.888         9.396         8.856         1068.73           7         16.2         6.156         4.860         14.094         16.038         1137.87           8         5.9         2.066         1.593         5.900         5.900         1273.89           9         17.9         3.759         5.191         16.468         16.826         1160.13           10         15.6         2.964         3.900         14.820         14.508         913.15           11         17.5         9.459         7.175         14.350         15.225         861.18           12         15.3         5.508         4.437         13.005         14.994         641.96           13         12.8         4.608         4.352         12.032         12.288         803.11           14         14.5         3.625         4.250         13.775         13.757         13.757         13.659         649.06           15								
5         13.6         5.932         3.888         10.744         12.920         835.50           6         10.8         4.968         3.888         9.396         8.856         1068.73           7         16.2         6.156         4.860         14.094         16.038         1137.87           8         5.9         2.066         1.593         5.900         5.900         1273.89           9         17.9         3.759         5.191         16.468         16.826         1160.13           10         15.6         2.964         3.900         14.820         14.508         913.15           11         17.5         9.450         7.175         14.350         15.225         861.18           12         15.3         5.508         4.437         13.005         14.994         641.96           13         12.8         4.608         4.352         12.032         12.288         803.11           14         14.5         3.625         4.205         13.775         13.775         710.46           15         15.7         2.669         3.925         15.229         13.659         649.06           16         17.8         4.806								
6 10.8 4.968 3.888 9.396 8.856 1068.73 7 16.2 6.156 4.860 14.094 16.038 1137.87 8 5.9 2.006 1.593 5.900 5.900 1273.89 9 17.9 3.759 5.191 16.468 16.826 1160.13 10 15.6 2.964 3.900 14.820 14.508 913.15 11 17.5 9.450 7.175 14.350 15.225 861.18 12 15.3 5.508 4.437 13.005 14.994 641.96 13 12.8 4.608 4.352 12.032 12.288 803.11 14 14.5 3.625 4.205 13.775 13.775 710.46 15 15.7 2.669 3.925 15.229 13.659 649.06 16 17.8 4.806 4.272 13.706 15.130 780.45 17 21.4 4.066 4.922 16.692 16.264 872.51 18 20.5 7.175 6.765 14.965 20.090 1281.55 19 15.1 5.73 4.530 13.137 12.684 661.88 20 12.5 4.250 4.000 8.875 12.375 1048.78 21 8.2 1.886 2.870 7.134 6.560 1011.14 22 14.1 3.384 3.948 13.395 10.857 1110.61 23 9.6 2.208 2.784 8.448 8.448 8.448 77.18 24 17.6 2.640 5.456 1.760 17.600 896.07 25 16.1 6.923 5.474 14.812 13.524 790.32 26 21.4 8.346 9.416 17.976 18.190 816.21 27 14.9 1.937 5.215 13.857 13.410 732.28 28 14.7 5.439 4.794 13.965 14.553 130.98 708.28 28 14.7 5.439 4.794 13.965 14.553 130.98 708.24 34 13.394 3.948 12.328 8.576 13.69 8.708.31 35 16.8 6.552 5.208 15.792 13.608 708.24 36 12.3 3.936 3.567 10.824 9.840 1234.31 37 12.8 4.224 3.348 4.794 13.955 11.520 688.75 35 14.1 3.948 4.794 13.959 11.552 697.73 36 19.9 6.368 5.771 18.808 12.328 8.576 11.520 804.71 38 18.2 9.100 5.642 17.472 16.016 905.99 39 11.1 3.774 4.218 10.212 8.769 11.52 697.73 44 11.9 4 6.014 6.402 19.012 16.684 669.31 42 19.5 4.095 5.655 15.990 15.795 767.91 43 19.4 7.760 7.372 17.654 16.878 1004.75 44 11.3 4.859 1.808 9.944 10.848 809.34 45 19.4 6.014 6.402 19.012 16.684 669.31 46 12.7 2.413 3.429 11.049 11.176 768.95 47 10.6 4.452 3.498 8.692 9.116 890.07 48 23.8 8.092 6.664 23.086 20.706 992.61								
7         16.2         6.156         4.860         14.094         16.038         1137.87           8         5.9         2.066         1.593         5.900         5.900         1273.89           9         17.9         3.759         5.191         16.468         16.826         1160.13           10         15.6         2.964         3.900         14.820         14.508         913.15           11         17.5         9.450         7.175         14.350         15.225         861.18           12         15.3         5.508         4.437         13.005         14.994         641.96           13         12.8         4.608         4.352         12.032         12.288         803.11           14         14.5         3.625         4.205         13.775         710.46           15         15.7         2.669         3.925         15.229         13.659         649.06           16         17.8         4.806         4.272         13.706         15.130         780.45           17         21.4         4.806         4.272         13.706         15.130         780.45           17         21.5         4.834         4.531								
8         5.9         2.006         1.593         5.900         5.900         1273.89           9         17.9         3.759         5.191         16.468         16.826         1160.13           10         15.6         2.964         3.900         14.820         14.508         913.15           11         17.5         9.450         7.175         14.350         15.225         861.18           12         15.3         5.508         4.437         13.005         14.994         641.96           13         12.8         4.608         4.352         12.082         12.288         803.11           14         14.5         3.625         4.205         13.775         13.775         710.46           15         15.7         2.669         3.925         15.229         13.659         640.66           15.7         2.669         3.925         15.229         13.659         640.66           17         21.4         4.066         4.922         16.692         16.264         872.51           18         20.5         7.175         6.765         14.965         20.090         1281.55           19         15.1         5.384         4.530								
9 17.9 3.759 5.191 16.468 16.826 1160.13 10 15.6 2.964 3.900 14.820 14.508 913.15 11 17.5 9.450 7.175 14.350 12 15.3 5.508 4.437 13.005 14.994 641.96 13 12.8 4.608 4.352 12.032 12.288 803.11 14 14.5 3.625 4.205 13.775 13.775 710.46 15 15.7 2.669 3.925 15.229 13.659 649.06 16 17.8 4.806 4.272 13.706 15.130 780.45 17 21.4 4.066 4.922 16.692 16.264 872.51 18 20.5 7.175 6.765 14.965 20.090 1281.55 19 15.1 5.738 4.530 13.137 12.684 661.88 20 12.5 4.250 4.000 8.875 12.375 1048.78 21 8.2 1.886 2.870 7.134 6.560 1011.14 22 14.1 3.384 3.948 13.395 10.857 1110.61 23 9.6 2.208 2.784 8.448 8.448 777.18 24 17.6 2.640 5.456 1.760 17.600 896.07 25 16.1 6.923 5.474 14.812 13.524 790.32 26 21.4 8.346 9.416 17.976 18.190 816.21 27 14.9 1.937 5.215 13.857 13.410 732.28 28 14.7 5.439 4.704 13.965 14.553 102.87 29 11.6 4.060 3.480 10.092 9.628 746.54 30 11.2 1.792 3.136 9.632 8.736 1301.52 31 18.4 3.496 4.968 12.328 18.032 869.85 32 12.3 3.936 3.567 10.824 9.840 12.343 13.75 12.68 86.55 31 18.4 3.496 4.968 12.328 18.032 869.85 32 12.3 3.936 3.567 10.824 9.840 12.34.31 33 16.8 6.552 5.208 15.792 13.608 881.51 37 12.8 4.224 3.328 8.576 11.520 804.71 38 18.2 9.100 5.642 17.472 16.016 905.99 39 11.1 3.774 4.218 10.212 8.769 1148.99 40 23.9 9.082 9.799 22.944 19.359 858.97 41 19.4 6.014 6.402 19.012 6.684 669.31 49 13.8 8.992 6.664 23.086 20.706 992.61								
10         15.6         2.964         3.900         14.820         14.508         913.15           11         17.5         9.450         7.175         14.350         15.225         861.18           12         15.3         5.508         4.437         13.005         14.994         641.96           13         12.8         4.608         4.352         12.032         12.288         803.11           14         14.5         3.625         4.205         13.775         13.675         710.46           15         15.7         2.669         3.925         15.229         13.659         649.06           16         17.8         4.806         4.272         13.706         15.130         780.45           17         21.4         4.066         4.922         16.692         16.264         872.51           18         20.5         7.175         6.765         14.965         20.090         1281.55           19         15.1         5.738         4.530         13.137         12.684         661.88           20         12.5         4.250         4.000         8.875         12.375         1048.78           21         8.2         1.880								
11       17.5       9.450       7.175       14.350       15.225       861.18         12       15.3       5.508       4.437       13.005       14.994       641.96         13       12.8       4.608       4.352       12.032       12.288       803.11         14       14.5       3.625       4.205       13.775       13.775       710.46         15       15.7       2.669       3.925       15.229       13.659       649.06         16       17.8       4.806       4.272       13.706       15.130       780.45         17       21.4       4.066       4.922       16.692       16.264       872.51         18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.836       2.870       7.134       6.560       101.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6 <td< td=""><td></td><td>9</td><td></td><td></td><td></td><td>16.468</td><td>16.826</td><td>1160.13</td></td<>		9				16.468	16.826	1160.13
12       15.3       5.508       4.437       13.005       14.994       641.96         13       12.8       4.608       4.352       12.032       12.288       803.11         14       14.5       3.625       4.205       13.775       13.775       710.46         15       15.7       2.669       3.925       15.229       13.659       649.06         16       17.8       4.806       4.272       13.766       15.130       780.45         17       21.4       4.066       4.922       16.692       16.264       872.51         18       20.5       7.175       6.765       14.965       20.999       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6		10	15.6	2.964	3.900	14.820	14.508	913.15
13       12.8       4.608       4.352       12.032       12.288       803.11         14       14.5       3.625       4.265       13.775       13.775       710.46         15       15.7       2.669       3.925       15.229       13.659       649.06         16       17.8       4.806       4.272       13.706       15.130       780.45         17       21.4       4.066       4.922       16.692       16.264       872.51         18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640e       5.456       1.760       17.600       896.07         25       16.1		11	17.5	9.450	7.175	14.350	15.225	861.18
14       14.5       3.625       4.205       13.775       13.775       710.46         15       15.7       2.669       3.925       15.229       13.659       649.96         16       17.8       4.886       4.272       13.706       15.130       780.45         17       21.4       4.066       4.922       16.692       16.264       877.51         18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.344       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8		12	15.3	5.508	4.437	13.005	14.994	641.96
15       15.7       2.669       3.925       15.229       13.659       649.06         16       17.8       4.886       4.272       13.706       15.130       780.45         17       21.4       4.066       4.922       16.692       16.264       872.51         18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.288       2.784       8.448       8.448       777.18         24       17.6       2.540       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       799.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1		13	12.8	4.608	4.352	12.032	12.288	803.11
16       17.8       4.806       4.272       13.706       15.130       780.45         17       21.4       4.066       4.922       16.692       16.264       872.51         18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5		14	14.5	3.625	4.205	13.775	13.775	710.46
17       21.4       4.066       4.922       16.692       16.264       872.51         18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       886.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       102.987         29       11.6		15	15.7	2.669	3.925	15.229	13.659	649.06
18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.484       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1		16	17.8	4.806	4.272		15.130	780.45
18       20.5       7.175       6.765       14.965       20.090       1281.55         19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.4848       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2		17	21.4	4.066	4.922	16.692	16.264	872.51
19       15.1       5.738       4.530       13.137       12.684       661.88         20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.4		18	20.5		6.765	14.965		1281.55
20       12.5       4.250       4.000       8.875       12.375       1048.78         21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.9								
21       8.2       1.886       2.870       7.134       6.560       1011.14         22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.660       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.5								
22       14.1       3.384       3.948       13.395       10.857       1110.61         23       9.6       2.208       2.784       8.448       8.448       777.18         24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.660       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5								
23         9.6         2.208         2.784         8.448         777.18           24         17.6         2.640         5.456         1.760         17.600         896.07           25         16.1         6.923         5.474         14.812         13.524         790.32           26         21.4         8.346         9.416         17.976         18.190         816.21           27         14.9         1.937         5.215         13.857         13.410         732.28           28         14.7         5.439         4.704         13.965         14.553         1029.87           29         11.6         4.060         3.480         10.092         9.628         746.54           30         11.2         1.792         3.136         9.632         8.736         1301.52           31         18.4         3.496         4.968         12.328         18.032         869.85           32         12.3         3.936         3.567         10.824         9.840         1234.31           33         16.8         6.552         5.208         15.792         13.608         708.24           34         23.9         5.497         10.038								
24       17.6       2.640       5.456       1.760       17.600       896.07         25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
25       16.1       6.923       5.474       14.812       13.524       790.32         26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       <								
26       21.4       8.346       9.416       17.976       18.190       816.21         27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
27       14.9       1.937       5.215       13.857       13.410       732.28         28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
28       14.7       5.439       4.704       13.965       14.553       1029.87         29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
29       11.6       4.060       3.480       10.092       9.628       746.54         30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
30       11.2       1.792       3.136       9.632       8.736       1301.52         31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
31       18.4       3.496       4.968       12.328       18.032       869.85         32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       <								
32       12.3       3.936       3.567       10.824       9.840       1234.31         33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3								
33       16.8       6.552       5.208       15.792       13.608       708.24         34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       <								
34       23.9       5.497       10.038       23.661       20.554       688.75         35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       <								
35       14.1       3.948       4.794       13.959       11.562       697.73         36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
36       19.9       6.368       5.771       18.308       18.706       881.51         37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8								
37       12.8       4.224       3.328       8.576       11.520       804.71         38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8								
38       18.2       9.100       5.642       17.472       16.016       905.99         39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
39       11.1       3.774       4.218       10.212       8.769       1148.99         40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
40       23.9       9.082       9.799       22.944       19.359       858.97         41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
41       19.4       6.014       6.402       19.012       16.684       669.31         42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
42       19.5       4.095       5.655       15.990       15.795       767.91         43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
43       19.4       7.760       7.372       17.654       16.878       1004.75         44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
44       11.3       4.859       1.808       9.944       10.848       809.38         45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
45       13.6       4.080       4.080       13.056       12.920       716.20         46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
46       12.7       2.413       3.429       11.049       11.176       768.95         47       10.6       4.452       3.498       8.692       9.116       890.03         48       23.8       8.092       6.664       23.086       20.706       992.61         49       13.8       4.968       4.554       5.382       11.592       670.31								
4710.64.4523.4988.6929.116890.034823.88.0926.66423.08620.706992.614913.84.9684.5545.38211.592670.31								
4823.88.0926.66423.08620.706992.614913.84.9684.5545.38211.592670.31								
49 13.8 4.968 4.554 5.382 11.592 670.31		47	10.6	4.452	3.498	8.692	9.116	890.03
		48	23.8	8.092	6.664	23.086	20.706	992.61
50 17.4 7.308 5.568 14.094 15.660 791.14		49	13.8	4.968	4.554	5.382	11.592	670.31
		50	17.4	7.308	5.568	14.094	15.660	791.14

ins\_losses abbrev 0 145.08 AL 1 133.93 AK

		F	10
2	110.35	ΑZ	
3	142.39	AR	
4	165.63	CA	
5	139.91	CO	
6	167.02	CT	
7	151.48	DE	
8	136.05	DC	
9	144.18	FL	
10	142.80	GA	
11	120.92	HI	
12	82.75	ID	
13	139.15	IL	
14	108.92	IN	
15	114.47	IA	
16	133.80	KS	
17	137.13	KY	
18	194.78	LA	
19	96.57	ME	
20	192.70	MD	
21	135.63	MA	
22	152.26	MI	
23	133.35	MN	
24	155.77	MS	
25	144.45	МО	
26	85.15	MT	
27	114.82	NE	
28	138.71	NV	
29	120.21	NH	
30	159.85	NJ	
31	120.75	NM	
32	150.01	NY	
33	127.82	NC	
34	109.72	ND	
35	133.52	ОН	
36	178.86	OK	
37	104.61	OR	
38	153.86	PA	
39	148.58	RI	
40	116.29	SC	
41	96.87	SD	
42	155.57	TN	
43	156.83	TX	
44	109.48	UT	
45	109.48	VT	
45 46	153.72	VA	
40 47	111.62	WA	
47 48	152.56	WV	
40 49	106.62	WI	
49 50	122.04	WY	,
J-0	122.04	WI	>

In [14]: ► dataset.describe()

#### Out[14]:

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_loss
count	51.000000	51.000000	51.000000	51.000000	51.000000	51.000000	51.0000
mean	15.790196	4.998196	4.886784	13.573176	14.004882	886.957647	134.493 <sup>-</sup>
std	4.122002	2.017747	1.729133	4.508977	3.764672	178.296285	24.8359
min	5.900000	1.792000	1.593000	1.760000	5.900000	641.960000	82.7500
25%	12.750000	3.766500	3.894000	10.478000	11.348000	768.430000	114.645(
50%	15.600000	4.608000	4.554000	13.857000	13.775000	858.970000	136.0500
75%	18.500000	6.439000	5.604000	16.140000	16.755000	1007.945000	151.8700
max	23.900000	9.450000	10.038000	23.661000	21.280000	1301.520000	194.7800
4							•

#### car crashes

Accidents in the states of the USA are examined. This is the data set of the cause of the accidents and the cost to the accident insurance companies.

- · total -> Number of drivers involved in fatal collisions per billion miles (5.900–23.900)
- · speeding -> Percentage Of Drivers Involved In Fatal Collisions Who Were Speeding (1.792–9.450)
- · alcohol -> Percentage Of Drivers Involved In Fatal Collisions Who Were Alcohol-Impaired (1.593–10.038)
- · not\_distracted -> Percentage Of Drivers Involved In Fatal Collisions Who Were Not Distracted (1.760–23.661)
- · no\_previous -> Percentage Of Drivers Involved In Fatal Collisions Who Had Not Been Involved In Any Previous Accidents (5.900–21.280)
- · ins\_premium -> Car Insurance Premiums (641.960–1301.520)
- · ins\_losses -> Losses incurred by insurance companies for collisions per insured driver (82.75–194.780)
- · abbrev -> USA states

In [15]: ► dataset.isnull()

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	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses	abbrev
0	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False
5	False	False	False	False	False	False	False	False
6	False	False	False	False	False	False	False	False
7	False	False	False	False	False	False	False	False
8	False	False	False	False	False	False	False	False
9	False	False	False	False	False	False	False	False
10	False	False	False	False	False	False	False	False
11	False	False	False	False	False	False	False	False
12	False	False	False	False	False	False	False	False
13	False	False	False	False	False	False	False	False
14	False	False	False	False	False	False	False	False
15	False	False	False	False	False	False	False	False
16	False	False	False	False	False	False	False	False
17	False	False	False	False	False	False	False	False
18	False	False	False	False	False	False	False	False
19	False	False	False	False	False	False	False	False
20	False	False	False	False	False	False	False	False
21	False	False	False	False	False	False	False	False
22	False	False	False	False	False	False	False	False
23	False	False	False	False	False	False	False	False
24	False	False	False	False	False	False	False	False
25	False	False	False	False	False	False	False	False
26	False	False	False	False	False	False	False	False
27	False	False	False	False	False	False	False	False
28	False	False	False	False	False	False	False	False
29	False	False	False	False	False	False	False	False
30	False	False	False	False	False	False	False	False
31	False	False	False	False	False	False	False	False
32	False	False	False	False	False	False	False	False
33	False	False	False	False	False	False	False	False
34	False	False	False	False	False	False	False	False
35	False	False	False	False	False	False	False	False

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses	abbrev
36	False	False	False	False	False	False	False	False
37	False	False	False	False	False	False	False	False
38	False	False	False	False	False	False	False	False
39	False	False	False	False	False	False	False	False
40	False	False	False	False	False	False	False	False
41	False	False	False	False	False	False	False	False
42	False	False	False	False	False	False	False	False
43	False	False	False	False	False	False	False	False
44	False	False	False	False	False	False	False	False
45	False	False	False	False	False	False	False	False
46	False	False	False	False	False	False	False	False
47	False	False	False	False	False	False	False	False
48	False	False	False	False	False	False	False	False
49	False	False	False	False	False	False	False	False
50	False	False	False	False	False	False	False	False

```
▶ dataset.isnull().any()
In [16]:
   Out[16]: total
                                False
             speeding
                                False
                                False
             alcohol
             not_distracted
                                False
             no_previous
                                False
             ins_premium
                                False
             ins_losses
                                False
             abbrev
                                False
             dtype: bool

    dataset.isnull().sum()

In [17]:
   Out[17]: total
                                0
                                0
             speeding
             alcohol
                                0
             not_distracted
                                0
             no_previous
                                0
             ins_premium
                                0
             ins_losses
                                0
             abbrev
                                0
             dtype: int64
```

### Correlation

In [20]: ▶ corr=dataset.corr()
corr

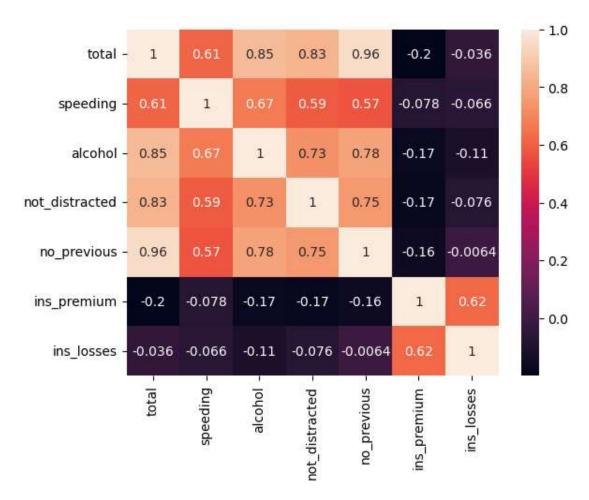
C:\Users\dines\AppData\Local\Temp\ipykernel\_13496\1091080309.py:1: Futur
eWarning: The default value of numeric\_only in DataFrame.corr is depreca
ted. In a future version, it will default to False. Select only valid co
lumns or specify the value of numeric\_only to silence this warning.
 corr=dataset.corr()

0+1	$\Gamma \cap \alpha$	
out	20	

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	i
total	1.000000	0.611548	0.852613	0.827560	0.956179	-0.199702	
speeding	0.611548	1.000000	0.669719	0.588010	0.571976	-0.077675	
alcohol	0.852613	0.669719	1.000000	0.732816	0.783520	-0.170612	
not_distracted	0.827560	0.588010	0.732816	1.000000	0.747307	-0.174856	
no_previous	0.956179	0.571976	0.783520	0.747307	1.000000	-0.156895	
ins_premium	-0.199702	-0.077675	-0.170612	-0.174856	-0.156895	1.000000	
ins_losses	-0.036011	-0.065928	-0.112547	-0.075970	-0.006359	0.623116	
4						_ \	

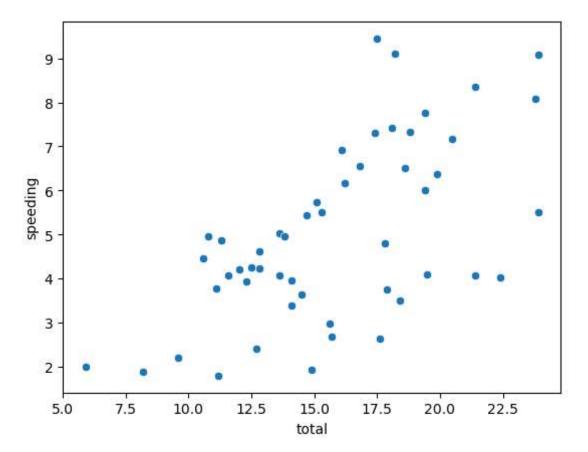
In [21]: ► sns.heatmap(corr,annot=True)

Out[21]: <Axes: >



# Scatter plot

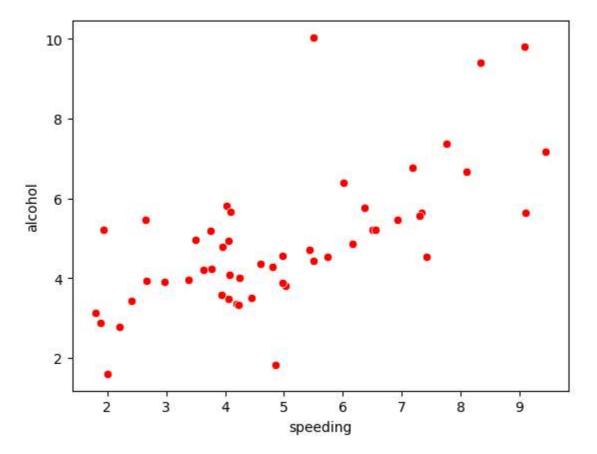
Out[24]: <Axes: xlabel='total', ylabel='speeding'>



Inference: From above graph we can conclude that no of drivers involved in fatal collosion is directly proportional to speeding.

```
In [29]: N sns.scatterplot(x="speeding",y="alcohol",data=dataset,color="red")
```

Out[29]: <Axes: xlabel='speeding', ylabel='alcohol'>



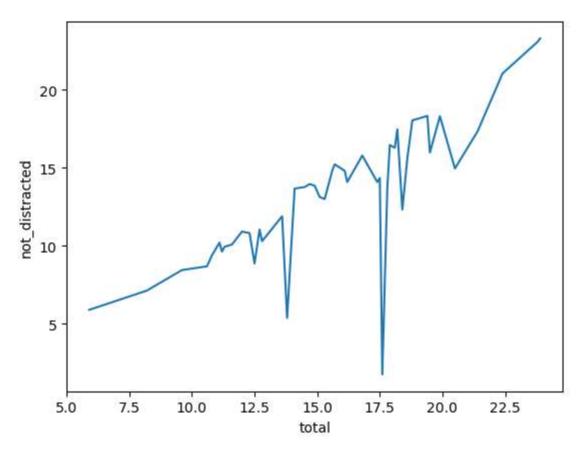
Inference: From above graph we can conclude that Percentage Of Drivers Involved In Fatal Collisions Who Were Speeding

is directly proportional to Percentage Of Drivers Involved In Fatal Collisions Who Were Alcohol-Impaired.

# **Line Plot**

```
In [37]: ▶ sns.lineplot(x="total",y="not_distracted",data=dataset,errorbar=None)
```

Out[37]: <Axes: xlabel='total', ylabel='not\_distracted'>

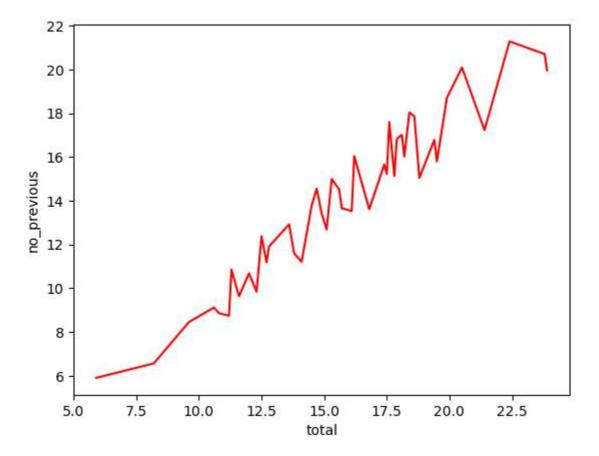


Inference: From above graph Number of drivers involved in fatal collisions is

linearly proportional to Percentage Of Drivers Involved In Fatal Collisions Who Were Not Distracted.

In [42]: N sns.lineplot(x="total",y="no\_previous",data=dataset,errorbar=None,color="r

Out[42]: <Axes: xlabel='total', ylabel='no\_previous'>



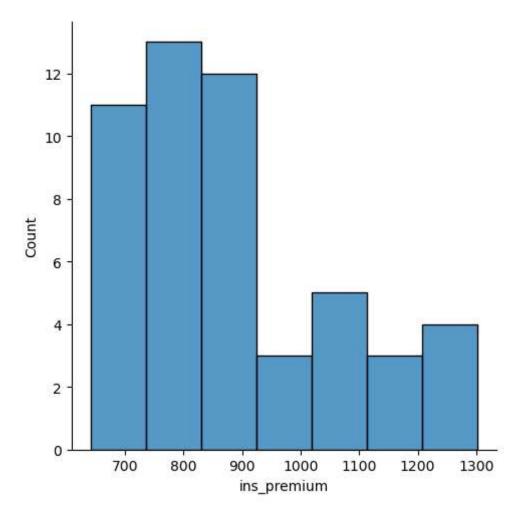
Inference: From above graph Number of drivers involved in fatal collisions is linearly proportional to Percentage Of

Drivers Involved In Fatal Collisions Who Had Not Been Involved In Any Previous Accidents

# **Distribution Plot**

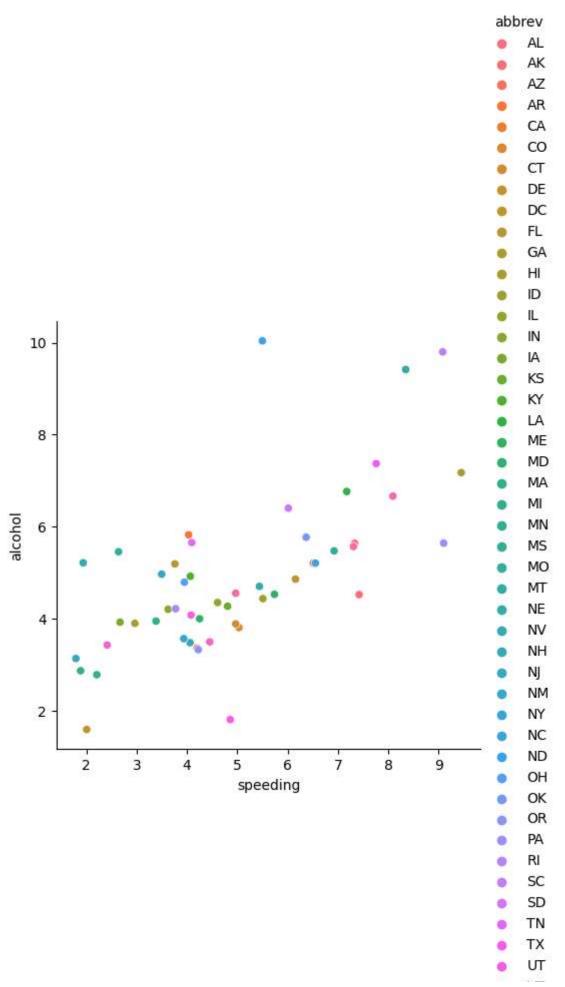
In [46]: ▶ sns.displot(dataset["ins\_premium"])

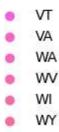
Out[46]: <seaborn.axisgrid.FacetGrid at 0x14224aa1150>



Inference: From above graph ins\_premium maximum present at 800

# **Relation Plot**

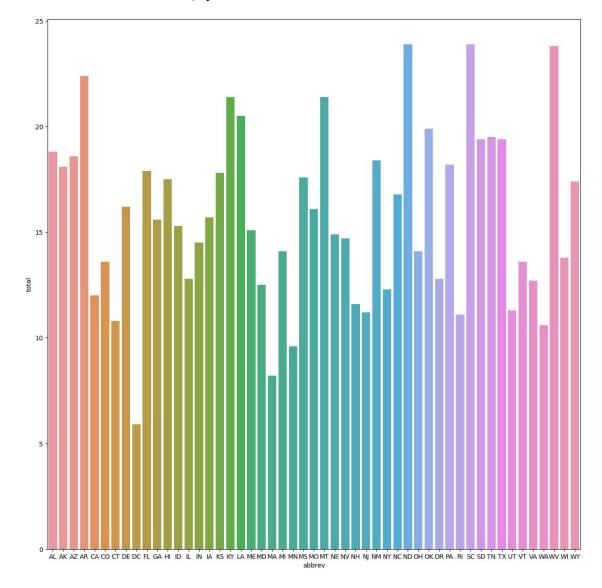




Inference: speeding is linearly proportional to alcohol

### **Bar Plot**

Out[59]: <Axes: xlabel='abbrev', ylabel='total'>

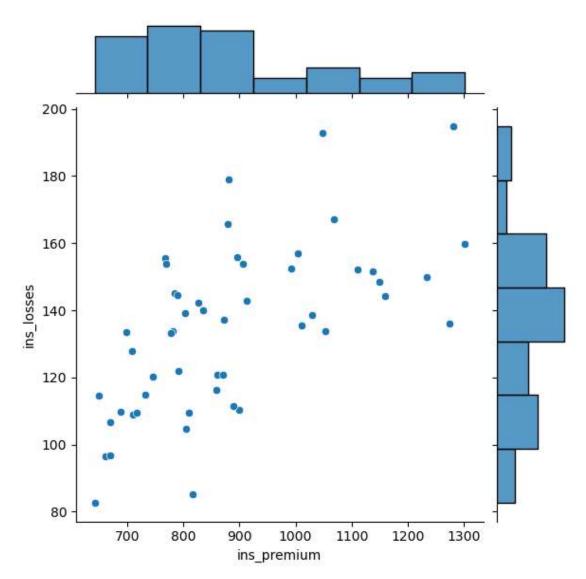


Inference: From above graph State ND,SC has maximium no of drivers in fatal collosion

# **Joint Plot**

In [93]: sns.jointplot(x="ins\_premium",y="ins\_losses",data=dataset)

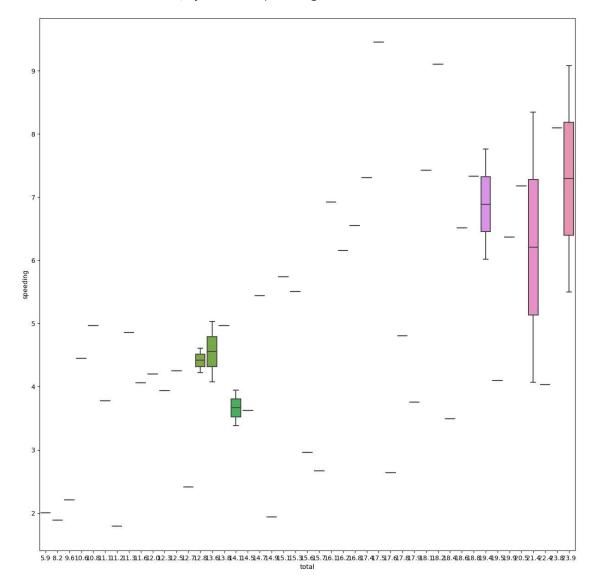
Out[93]: <seaborn.axisgrid.JointGrid at 0x14228eae250>



Inference: ins\_premium and ins\_losses are linearly proportional

```
In [95]:  plt.figure(figsize=(15,15))
sns.boxplot(x="total",y="speeding",data=dataset)
```

Out[95]: <Axes: xlabel='total', ylabel='speeding'>



Inference: from above graph outliners are not there