```
import pandas as pd
import numpy as np
import statistics


from google.colab import drive
drive.mount("/content/gdrive")
```

```
Drive already mounted at /content/gdrive; to attempt to forcibly remount, call drive.mou
```

```
aus_weather = pd.read_csv('/content/gdrive/My Drive/datasets/weatherAUS.csv',encoding= 'unico


aus_weather.head()
```

	Date	Location	MinTemp	MaxTemp	Rainfall	Evaporation	Sunshine	WindGustDir	Wind
0	2008-12-01	Albury	13.4	22.9	0.6	NaN	NaN	W	
1	2008-12-02	Albury	7.4	25.1	0.0	NaN	NaN	WNW	
2	2008-12-03	Albury	12.9	25.7	0.0	NaN	NaN	WSW	
3	2008-12-04	Albury	9.2	28.0	0.0	NaN	NaN	NE	
4	2008-12-05	Albury	17.5	32.3	1.0	NaN	NaN	W	

```
aus_weather.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 142193 entries, 0 to 142192
Data columns (total 24 columns):
 #   Column         Non-Null Count   Dtype  
---  ------         --------------   -----  
 0   Date           142193 non-null  object 
 1   Location       142193 non-null  object 
 2   MinTemp        141556 non-null  float64
 3   MaxTemp        141871 non-null  float64
 4   Rainfall       140787 non-null  float64
 5   Evaporation    81350 non-null   float64
 6   Sunshine       74377 non-null   float64
 7   WindGustDir    132863 non-null  object 
 8   WindGustSpeed  132923 non-null  float64
 9   WindDir9am     132180 non-null  object 
 10  WindDir3pm     138415 non-null  object 
 11  WindSpeed9am   140845 non-null  float64
```

```
 12  WindSpeed3pm   139563 non-null  float64
 13  Humidity9am    140419 non-null  float64
 14  Humidity3pm    138583 non-null  float64
 15  Pressure9am    128179 non-null  float64
 16  Pressure3pm    128212 non-null  float64
 17  Cloud9am       88536 non-null   float64
 18  Cloud3pm       85099 non-null   float64
 19  Temp9am        141289 non-null  float64
 20  Temp3pm        139467 non-null  float64
 21  RainToday      140787 non-null  object
 22  RISK_MM        142193 non-null  float64
 23  RainTomorrow   142193 non-null  object
dtypes: float64(17), object(7)
memory usage: 26.0+ MB
```

```
aus_weather.describe()
```

	MinTemp	MaxTemp	Rainfall	Evaporation	Sunshine	WindGustS
count	141556.000000	141871.000000	140787.000000	81350.000000	74377.000000	132923.00
mean	12.186400	23.226784	2.349974	5.469824	7.624853	39.98
std	6.403283	7.117618	8.465173	4.188537	3.781525	13.58
min	-8.500000	-4.800000	0.000000	0.000000	0.000000	6.00
25%	7.600000	17.900000	0.000000	2.600000	4.900000	31.00
50%	12.000000	22.600000	0.000000	4.800000	8.500000	39.00
75%	16.800000	28.200000	0.800000	7.400000	10.600000	48.00
max	33.900000	48.100000	371.000000	145.000000	14.500000	135.00

```
aus_weather.dtypes
```

```
Date              object
Location          object
MinTemp          float64
MaxTemp          float64
Rainfall         float64
Evaporation      float64
Sunshine         float64
WindGustDir       object
WindGustSpeed    float64
WindDir9am        object
WindDir3pm        object
WindSpeed9am     float64
WindSpeed3pm     float64
Humidity9am      float64
Humidity3pm      float64
Pressure9am      float64
Pressure3pm      float64
Cloud9am         float64
```

```
Cloud3pm         float64
Temp9am          float64
Temp3pm          float64
RainToday         object
RISK_MM          float64
RainTomorrow      object
dtype: object
```

```
aus_weather.shape
```

```
(142193, 24)
```

```
aus_weather.corr()
```

	MinTemp	MaxTemp	Rainfall	Evaporation	Sunshine	WindGustSpeed	Wi
MinTemp	1.000000	0.736267	0.104255	0.467261	0.072961	0.177285	
MaxTemp	0.736267	1.000000	-0.074839	0.588915	0.469967	0.067690	
Rainfall	0.104255	-0.074839	1.000000	-0.064549	-0.227525	0.133497	
Evaporation	0.467261	0.588915	-0.064549	1.000000	0.366607	0.203001	
Sunshine	0.072961	0.469967	-0.227525	0.366607	1.000000	-0.032831	
WindGustSpeed	0.177285	0.067690	0.133497	0.203001	-0.032831	1.000000	
WindSpeed9am	0.176005	0.014680	0.086816	0.193936	0.008040	0.604837	
WindSpeed3pm	0.175749	0.050800	0.057759	0.128895	0.056012	0.686419	
Humidity9am	-0.234211	-0.505432	0.223725	-0.505890	-0.491603	-0.215461	
Humidity3pm	0.005999	-0.509270	0.255312	-0.392785	-0.629122	-0.026663	
Pressure9am	-0.451260	-0.332293	-0.168085	-0.269907	0.040959	-0.457891	
Pressure3pm	-0.461623	-0.427279	-0.126728	-0.293160	-0.020464	-0.412922	
Cloud9am	0.077625	-0.289865	0.198195	-0.185032	-0.675610	0.071235	
Cloud3pm	0.020489	-0.279053	0.171993	-0.184287	-0.704202	0.109088	
Temp9am	0.901813	0.887020	0.011477	0.545497	0.291139	0.150258	
Temp3pm	0.708865	0.984562	-0.079178	0.574275	0.490180	0.032970	
RISK_MM	0.124743	-0.044208	0.308557	-0.043498	-0.294973	0.162923	

```
aus_weather.skew()
```

```
MinTemp          0.023900
MaxTemp          0.224917
Rainfall         9.888061
Evaporation      3.746834
```

```
Sunshine        -0.502911
WindGustSpeed    0.874305
WindSpeed9am     0.775494
WindSpeed3pm     0.631433
Humidity9am     -0.482821
Humidity3pm      0.034515
Pressure9am     -0.096211
Pressure3pm     -0.046198
Cloud9am        -0.224286
Cloud3pm        -0.224092
Temp9am          0.091387
Temp3pm          0.240054
RISK_MM          9.836902
dtype: float64
```

```
aus_weather.isnull().sum()
```

```
Date                0
Location            0
MinTemp           637
MaxTemp           322
Rainfall         1406
Evaporation     60843
Sunshine        67816
WindGustDir      9330
WindGustSpeed    9270
WindDir9am      10013
WindDir3pm       3778
WindSpeed9am     1348
WindSpeed3pm     2630
Humidity9am      1774
Humidity3pm      3610
Pressure9am     14014
Pressure3pm     13981
Cloud9am        53657
Cloud3pm        57094
Temp9am           904
Temp3pm          2726
RainToday        1406
RISK_MM             0
RainTomorrow        0
dtype: int64
```

```
# highest = list()
# lowest = list()
# range = list()
# def range_find(array):
#   for i in range(array):
#     highest.append(aus_weather.columns[i].max())
#     lowest.append(aus_weather.columns[i].min())
#     range.append(aus_weather[i].columns.max() - aus_weather[i].columns.min())
```

```
aus_weather.columns
```

```
aus_weather.columns
```

```
Index(['Date', 'Location', 'MinTemp', 'MaxTemp', 'Rainfall', 'Evaporation',
       'Sunshine', 'WindGustDir', 'WindGustSpeed', 'WindDir9am', 'WindDir3pm',
       'WindSpeed9am', 'WindSpeed3pm', 'Humidity9am', 'Humidity3pm',
       'Pressure9am', 'Pressure3pm', 'Cloud9am', 'Cloud3pm', 'Temp9am',
       'Temp3pm', 'RainToday', 'RISK_MM', 'RainTomorrow'],
      dtype='object')
```

```
aus_weather[aus_weather.columns[2]].max()
```

```
33.9
```

```
len(aus_weather.columns)
```

```
24
```

```
aus_weather['MaxTemp'].var(skipna=True)
```

```
50.66048800136698
```

```
aus_weather['MaxTemp'].mean(skipna=True)
```

```
23.226784191272444
```

```
aus_weather['MaxTemp'].median(skipna=True)
```

```
22.6
```

```
aus_weather['MaxTemp'].mode()
```

```
0    20.0
dtype: float64
```

```
aus_weather['MaxTemp'].max() - aus_weather['MaxTemp'].min()
```

```
52.9
```