3

```
In [32]: import seaborn as sb
         data=sb.load_dataset('iris')

In [34]: data.shape
Out[34]: (150, 5)

In [36]: print(len(data))
         150

In [38]: data.head(10)
```

Out[38]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
5	5.4	3.9	1.7	0.4	setosa
6	4.6	3.4	1.4	0.3	setosa
7	5.0	3.4	1.5	0.2	setosa
8	4.4	2.9	1.4	0.2	setosa
9	4.9	3.1	1.5	0.1	setosa

5

```
In [49]: for i in range(100):
             n=2
             print('%d X %d = %d\n'%(n,i,n*i));
```

```
2 X 0 = 0

2 X 1 = 2

2 X 2 = 4

2 X 3 = 6

2 X 4 = 8

2 X 5 = 10

2 X 6 = 12

2 X 7 = 14

2 X 8 = 16

2 X 9 = 18
```

8

```
2 X 54 = 108

2 X 55 = 110

2 X 56 = 112

2 X 57 = 114

2 X 58 = 116

2 X 59 = 118

2 X 60 = 120

2 X 61 = 122

2 X 62 = 124

2 X 63 = 126
```

11

```
In [85]: df=pd.DataFrame(index=range(num_reps),data={'Percentage_to_target':pct_to_target,'Sales_target':sales_target})
```

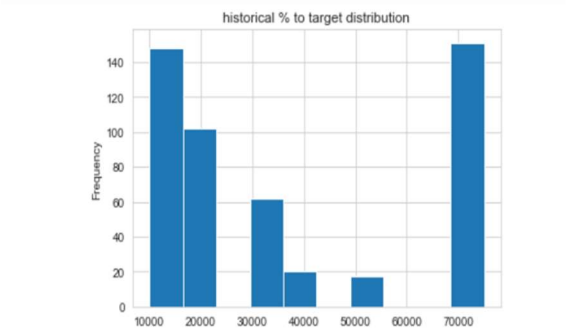
```
In [80]: df.head(10)
```

Out[80]:

	Percentage_to_target	sales_target
0	0.99	75000
1	0.86	10000
2	1.15	20000
3	0.85	20000
4	1.03	20000
5	0.86	20000
6	1.08	30000
7	0.99	10000
8	0.94	10000
9	0.85	20000

```
In [83]: ##Look at the sales target distribution
df['Percentage_to_target'].plot(kind='hist',title='historical % to target distribution')
```

Out[83]: <AxesSubplot:title={'center':'historical % to target distribution'}, ylabel='Frequency'>




```
In [91]: ##Back into the actual sales amount
df['Sales']=df['Percentage_to_target']*df['Sales_target']
```

```
In [93]: def calc_commission_rate(x):
    """
    0-90%=2%
    91-99%=3%
    >=99%=4%
    """
    if x <= 90:
        return .02
    if x <= .99:
        return .03
    else:
        return 0.04
```

```
In [95]: df['Commission_Rate']=df['Percentage_to_target'].apply(calc_commission_rate)
```

```
In [97]: df.head(10)
```

Out[97]:

	Percentage_to_target	Sales_target	Sales	Commission_Rate
0	0.99	75000	74250.0	0.02
1	0.86	10000	8600.0	0.02
2	1.15	20000	23000.0	0.02
3	0.85	20000	17000.0	0.02
4	1.03	20000	20600.0	0.02
5	0.86	20000	17200.0	0.02
6	1.08	30000	32400.0	0.02
7	0.99	10000	9900.0	0.02
8	0.94	10000	9400.0	0.02
9	0.85	20000	17000.0	0.02

12

```
In [4]: pip install seaborn
```

```
Requirement already satisfied: seaborn in c:\users\chaub\anaconda3\lib\site-packages (0.11.1)
Requirement already satisfied: scipy>=1.0 in c:\users\chaub\anaconda3\lib\site-packages (from seaborn) (1.6.2)
Requirement already satisfied: numpy>=1.15 in c:\users\chaub\anaconda3\lib\site-packages (from seaborn) (1.20.1)
Requirement already satisfied: matplotlib>=2.2 in c:\users\chaub\anaconda3\lib\site-packages (from seaborn) (3.3.4)
Requirement already satisfied: pandas>=0.23 in c:\users\chaub\anaconda3\lib\site-packages (from seaborn) (1.2.4)
Requirement already satisfied: python-dateutil>=2.1 in c:\users\chaub\anaconda3\lib\site-packages (from matplotlib>=2.2->seabor
n) (2.8.1)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\chaub\anaconda3\lib\site-packages (from matplotlib>=2.2->seaborn)
(1.3.1)
Requirement already satisfied: cycler>=0.10 in c:\users\chaub\anaconda3\lib\site-packages (from matplotlib>=2.2->seaborn) (0.1
0.0)
Requirement already satisfied: pillow>=6.2.0 in c:\users\chaub\anaconda3\lib\site-packages (from matplotlib>=2.2->seaborn) (8.
2.0)
Requirement already satisfied: pyparsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.3 in c:\users\chaub\anaconda3\lib\site-packages (from mat
plotlib>=2.2->seaborn) (2.4.7)
Requirement already satisfied: six in c:\users\chaub\anaconda3\lib\site-packages (from cycler>=0.10->matplotlib>=2.2->seaborn)
(1.15.0)
Requirement already satisfied: pytz>=2017.3 in c:\users\chaub\anaconda3\lib\site-packages (from pandas>=0.23->seaborn) (2021.1)
Note: you may need to restart the kernel to use updated packages.
```

```
In [7]: import seaborn as sns
```

13

```
In [10]: import os
         print(os.getcwd())
```

```
C:\Users\chaub
```

```
In [6]: df=open("D:\Test1.txt","r")
        print(df.read())
        df.close()
```

```
What is Python used for?
Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis.
Python is a general-purpose language, meaning it can be used to create a variety of different programs and isn't specialized fo
r any specific problems
```

14.

Python is a high – level, interpreted, general – purpose programming language.