```python
import seaborn as sns
import matplotlib.pyplot as plt

independent = data[['Years Experience']]
dependent = data[['salary']]
plt.scatter(independent, dependent)
plt.xlabel('years of experience',
    fontsize=5)

plt.ylabel('salary', fontsize=5)
plt.show()
```

```python
t train_test_split
st = train_test_split(independent,
    dependent, test_size=1/3,
    random_state=0)
```

Line charts

```
import matplotlib.pyplot as plt
→ years = [2010, 2015, 2020, 2025]
→ collection = [100, 50, 250, 800]
→ plt.plot (years, collection, color=...)
→ plt.xlabel ("years")
→ plt.ylabel ("collection")
→ plt.title ("vijay movie collection")
→ plt.show()
```

Tea lovers, coffee

```
→ districts = ["chennai", "Madurai",
     "coimbatore", "Trichy", "salem"]

→ tea_lovers = [800, 800, 450, 350, 400]

→ coffee_lovers = [450, 250, 400, 300, 350]

→ plt.scatter (tea_lovers, coffee_lovers,
     color = 'brown')

→ plt.xlabel ("Tea Lovers")

→ plt.ylabel ("coffee Lovers")

→ plt.title ("Tea vs coffee Lovers in
     Tamil Nadu")
```

```python
→ plt.hist (movie_durations, bins=6,
    color = 'blue', edgecolor = 'black')

→ plt. xlable (" Duration (minutes)")

→ plt. ylabel (" Number of Movies")

→ plt. title (" Kollywood Movie Durations")

→ plt. show()
```

Pie chart

```python
import matplotlib. pyplot as plt

players = [" dhoni", "virat", "rohit",
    " pandiyan"]

votes = [10, 7, 2, 12]

plt. pie (votes, labels = players, autopc
    = '%1.1f%%',

    th, picks

colors = ['red', 'yellow', 'green',

plt. title (" favorite cricketer

plt. show ()
```

1. Horrible Parachute

Python

```
import matplotlib.pyplot as plt
foods = ["Dosa", "Idli", "biryani", "Sambar",
         "Parotta"]
votes = [90, 85, 100, 80, 45] # number of
people who love it.
pie.bar (foods, votes, color=['red',
'green', 'blue', 'orange', 'purple'])
-> plt.xlabel ('Food Items')
-> plt.ylabel ("votes")
-> plt.title (" Favorite Tamil Nadu Foods"
-> plt.show ()
```
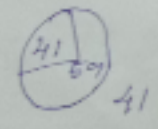
───────── x ─────────

100%

$100 - 41 = 59$

41

$\frac{1}{41} \times 100 = \overset{10}{10/4.1} = 2.$

$\frac{10}{41} \times 100 = \overset{10}{100/4.1} = 2$

```python
df_read = pd.read_excel(filename)
print("Data Read from Excel")
print(df_head)

# Save
filename = "sales_data_x.lsx"
df.to_excel(filename, index=False]
print(f"File {filename} Saved successfully")

# Calculate total revenue
# Missing point - Always Remove
df["Total Revenue"] = df["Sales"] *
                      df["Price"]

print("Sales data computed!")
print(df).

# ascending order, dis ascending order
-----------------------------------------
df_sorted = df_read.sort_values(by=
"Total Revenue", ascending = False)

print(" Sorted Data (Highest
           Revenue First):")

print(df_sorted).
```

Filter Sales Above ₹ 10,000

Import pandas as pd

electronics - {

"product" = [

list

"product" = ["Laptop", "phone", "Tablet",
"Phone", "Tablet"]

"Region" = ["madurai", "Trichy", "Dindigul",
"Trichy", "madurai"]

Price = ["50,000", "10,000", "5,000", "2,000",
"100,000"]

Sales = ["3", 2, 1, 4, 2]

Print (Product[2]).

output = Tablet

Anaconda prompt
↓
Jupyter notebook
↓
New
↓
Python 3 → Notebook

```python
age = int(input("enter the value:"))
if age > 18:
    print("children")

elif age > 30:
    print("adult")

elif age < 40:
    print("citizen")

else:
    print("Seno citizen")
```

```python
For i in range (5):

    Print(i)
```

```python
word = "helloworld"
for i in word:
    print(i)
```

output:
h
e
l
l
o
w
o
r
l
d

(Starting
First set)

```python
lst = ['a', 'b', 'c', 'd']
for i in lst:
    print(i)
```

a
b
c
d

```python
marks = [89, 23, 60, 45, 78]
for i in marks:
    if i >= 35:
        print(f"{i} pass")
    else:
        print(f"{i} fail")
```

```python
age = int (input ("enter the age"))
if age >= 6 :
    print (" Free")
elif age >= 6 and if age <= 12:
    print ("100")
elif age >= 13 and age <= 60:
    print ("150")

elif age <= 60:
    print ("120%")
else:
    print ("120")
```

o/p enter the age : 4
         Ticket Free

For loop
→ used when

Syntax:
    For variable in sequ

```python
    elif mark1 >= 60:
        print("d")
else:
    print("Fail")

# output:
# enter the marks: 100

mark1 = int(input("enter the mark"))
if mark1 >= 90 and mark1 <= 100:
    print("a+")
elif mark1 >= 80 and mark1 <= 90:
    print("b+")
elif mark1 >= 70 and mark1 <= 80:
    print("c+")
elif mark1 >= 50 and mark1 <= 70:
    print("d")
else:
    print("Fail")
```

one conditional
— if
two conditional
— if..else

```
mark=35
if mark>35:
    Print ('pass')
elif mark ==35:
    Print ('just pass')
else:
    Print ('Fail')
```

output
    just pass


```
Mark =100
if mark>
mark1 = int(input("enter the ma
    if mark1>=90:
        Print ("a+")
    elif mark1>=80:
        Print ("b+")
    elif mark1>=70:
        Print ("c+")
```

Hands - on Activity 2

Take 8: Write a program to create a dictionary with keys math, science and English and assign marks. Add 5 bonus marks to each subject and display the updated dictionary.

Hands - on Activity 4

Take 4: write a program to create a set of number and check if specific number (e.g. 10) is present using a membership operator. Display the result.

```
import numpy as np
arr = np.array([1, 2, 3, 4, 5, he
arr -
      array([1, 2, 3, 4, 5, 5.4
```

Python Data Structures

```
In 27 a dict {'a':28, 'b':45, 'c':50}
out[Text: dict]
         Print(dic)

         {'a':23, 'b':45, 'c':50}


         dic['a']

         50

dic['b']=8.0
dic
{'a':23, 'b':8.0, 'c':50, 'd':50}


dict1 = {"tamil":[45, 76, 54, 12,

         'reg no': (1, 2, 3, 4, 5)}.

         dict1
```

Hands - on Activity 2

Task 2 : write a program to
create a list of 5 fruits. Add
more fruit to the list and
display the updated list.

20-8-25

```
a = 10                    Print ("Hello world")
b = 5
c = a + b
Print ("the sum is : ", c)
the sum is : 15.
```

name

```
Print (" Name") Input

        Name  output

a = 10
b = 10
c = a - b, a + b, a * b, a / b, a // b, a ** b
Print (" the output is ', c)
the output is (0, 20, 100, 1.0, 1, 10000000

name = str (Input ("what is your name"))
age = int (input ("how old are you :"))
gender = str ( input ("what is your gender:"

disease = str (input ("what disease :"))

bloodlevel = Float (input (

Print ('
```