**33.How to plot bubble chart using matplotlib,numpy and pandas in python?**

**Objective:**

* To plot bubble chart for given data sample using python.

**Process:**

* Read the sample data.
* Import needed libraries.
* Assign x,y,z for plotting.
* Use plt.scatter() to plot the bubble chart.

**Input:**

* Data set(sample).

**Output:**

* Bubble chart representation.

**Source code:**

#import libraries

import matplotlib.pyplot as plt

import numpy as np

import pandas as pd

#Read the sample data

data=pd.read\_csv('/home/soft27/soft27/Sathish/

Pythonfiles/Employee.csv')

#create data frame

df=pd.DataFrame(data)

#assign x variable

x = df['salary']

#assign y variable

y = df['bonus']

z = np.random.rand(10)

#pick random color

colors = np.random.rand(10)

#plot the bubble chart

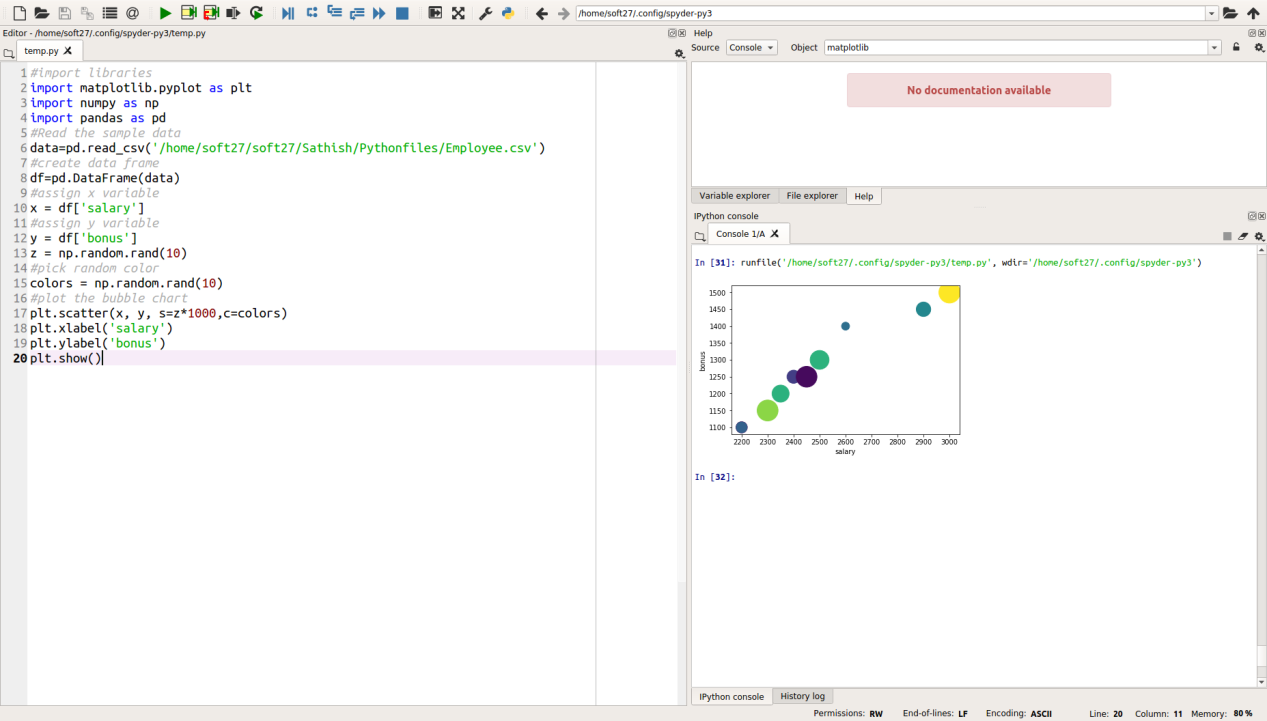
plt.scatter(x, y, s=z\*1000,c=colors)

plt.xlabel('salary')

plt.ylabel('bonus')

plt.show()

**Screen shot:**

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