In [1]:
```
#Experiment no.6
```

In [2]:
```
#Aim : To perform Data Visualization using Matplotlib
```

In [3]:
```
#Name:Srushti Bawane
#Roll no.:5
#sec:B
#sub:ET 1
#date:09-09-2025
```

In [5]:
```
#import  library
import numpy as np
from matplotlib import pyplot as plt
```

In [6]:
```
x=np.arange(1,11)
```

In [7]:
```
x
```

Out[7]:
```
array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10])
```

In [8]:
```
print(x)
```

```
[ 1  2  3  4  5  6  7  8  9 10]
```

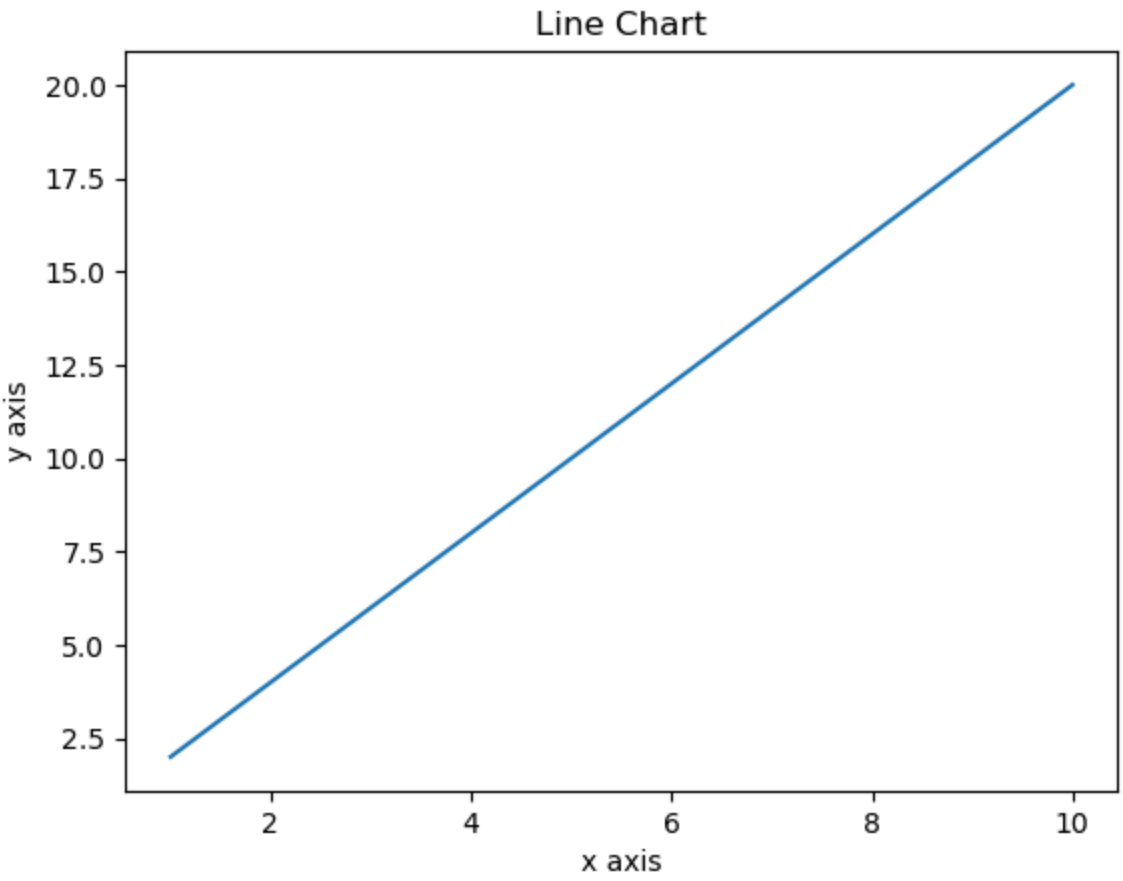
In [9]:
```
y=2*x
```

In [11]:
```
y
```

Out[11]:
```
array([ 2,  4,  6,  8, 10, 12, 14, 16, 18, 20])
```

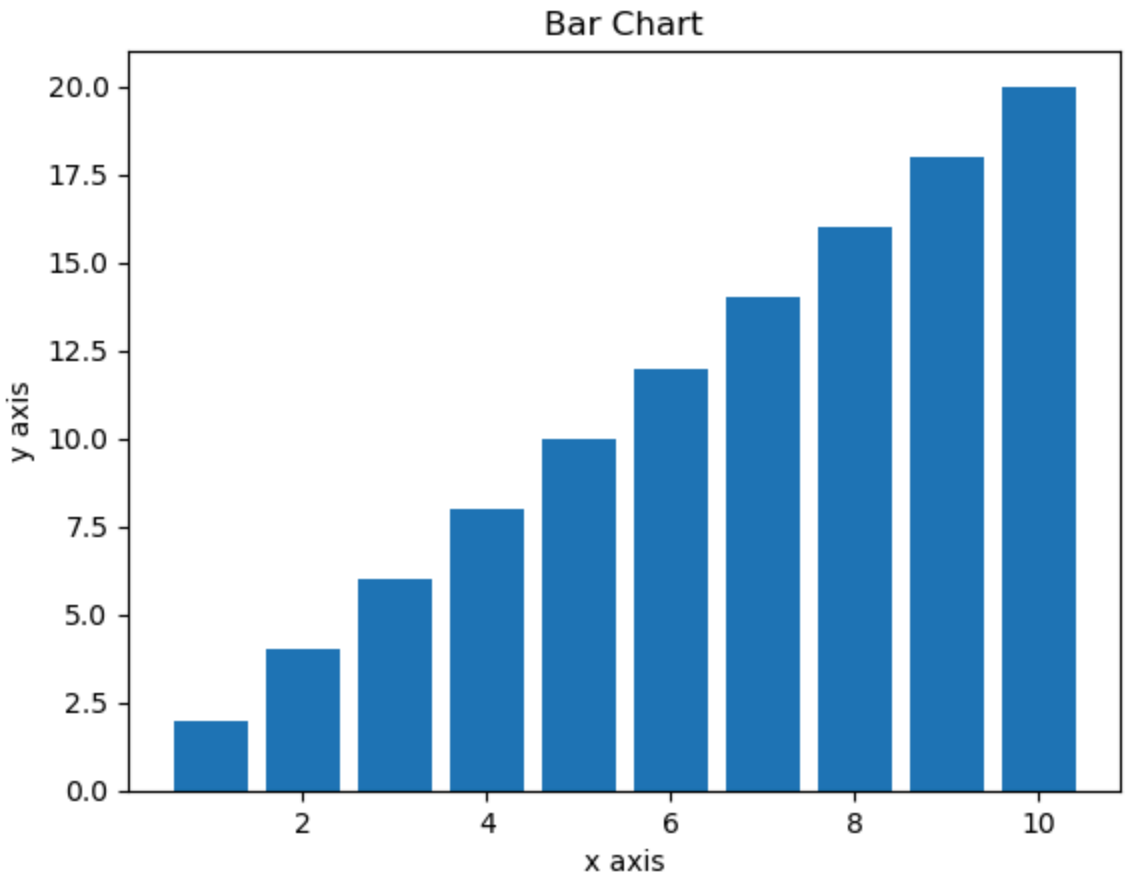
Line chart

In [12]:
```
plt.plot(x,y)
plt.title("Line Chart")
plt.xlabel("x axis")

plt.ylabel("y axis")
plt.show()
```



Bar chart

In [14]:
```
plt.bar(x,y)
plt.title("Bar Chart")
plt.xlabel("x axis")

plt.ylabel("y axis")
plt.show()
```



In [15]:
```
x=np.random.randint(1,10,9)
x
```

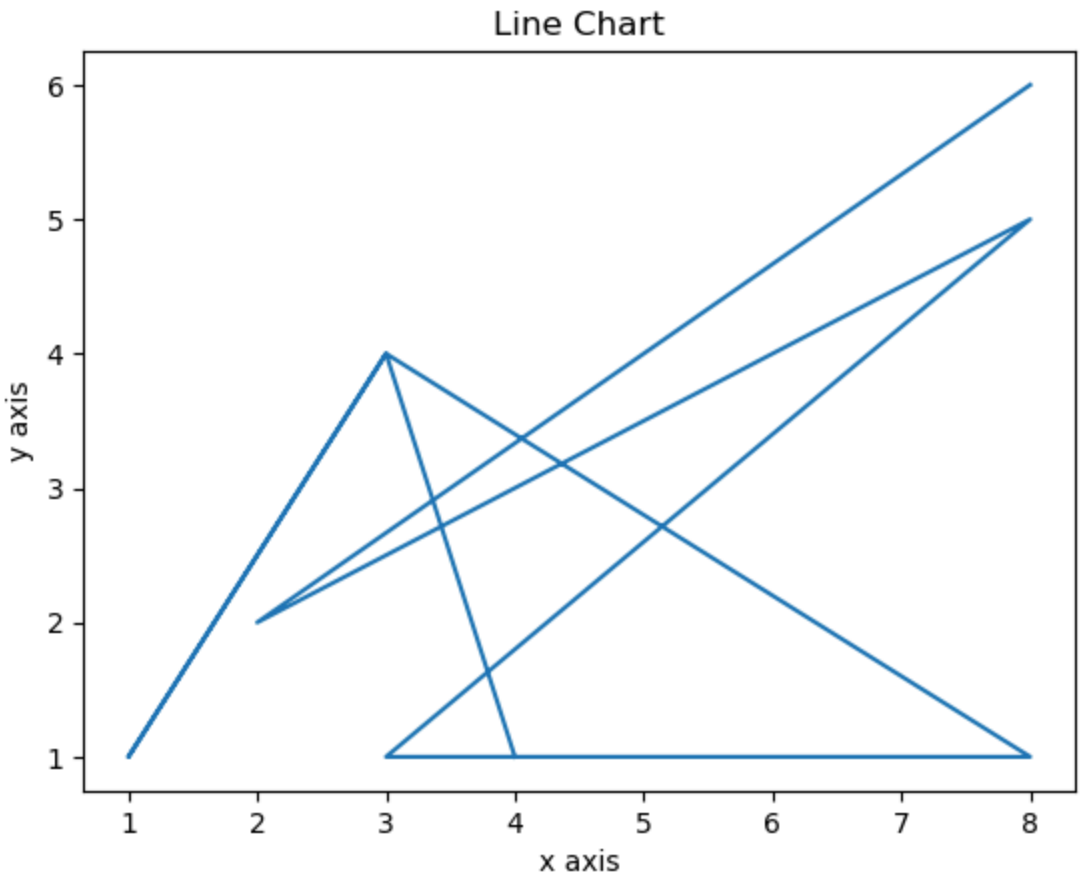
Out[15]:
```
array([8, 2, 8, 3, 8, 3, 1, 3, 4], dtype=int32)
```

In [16]:
```
y=np.random.randint(1,10,9)
y
```

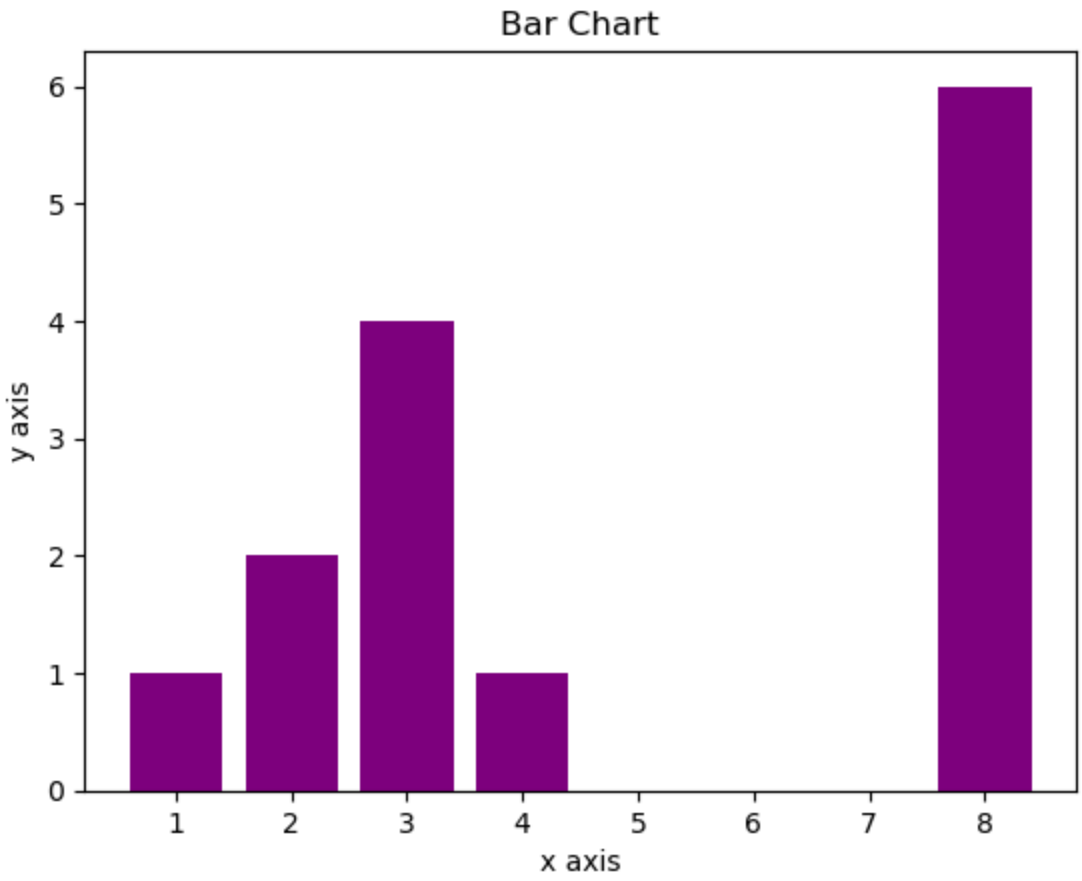
Out[16]:
```
array([6, 2, 5, 1, 1, 4, 1, 4, 1], dtype=int32)
```

In [ ]:
```
```

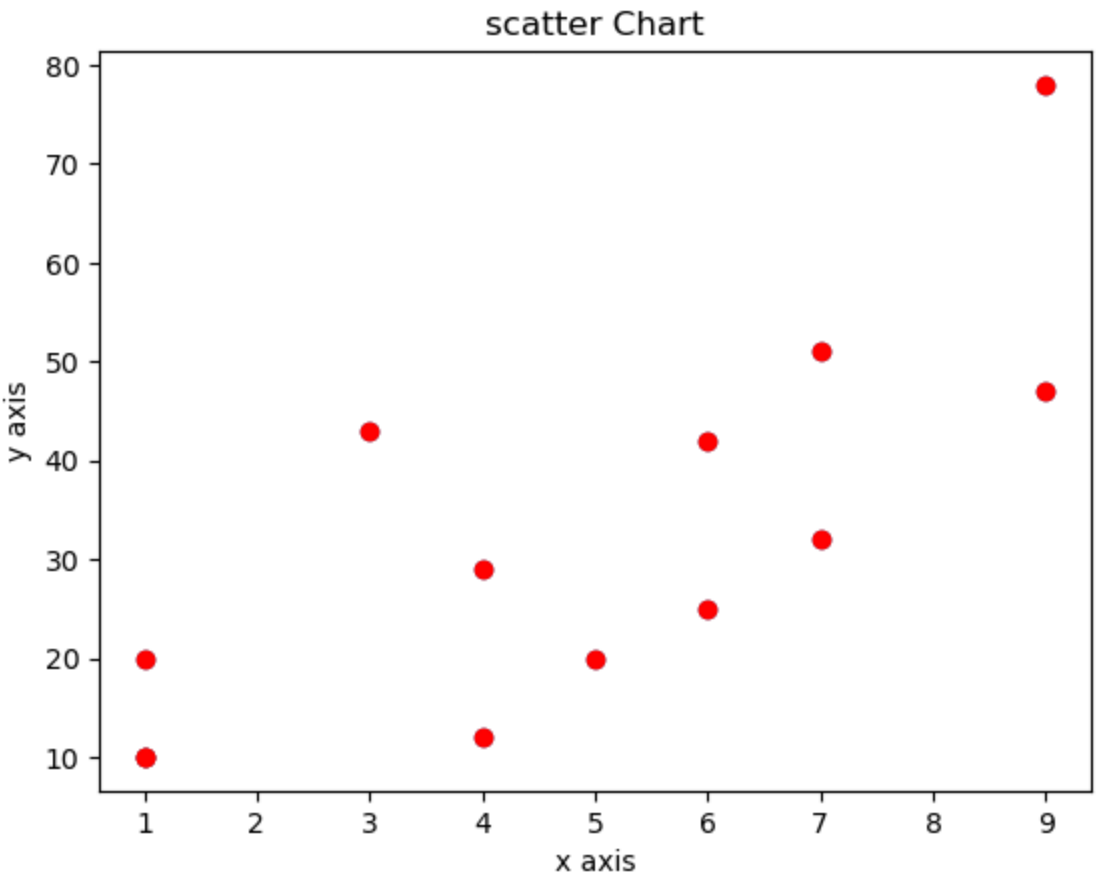
In [17]:
```
plt.plot(x,y)
plt.title("Line Chart")
plt.xlabel("x axis")

plt.ylabel("y axis")

plt.show()
```



In [18]:
```
plt.bar(x,y)
plt.title("Bar Chart")
plt.xlabel("x axis")

plt.ylabel("y axis")
plt.bar(x,y, color="purple")
plt.show()
```

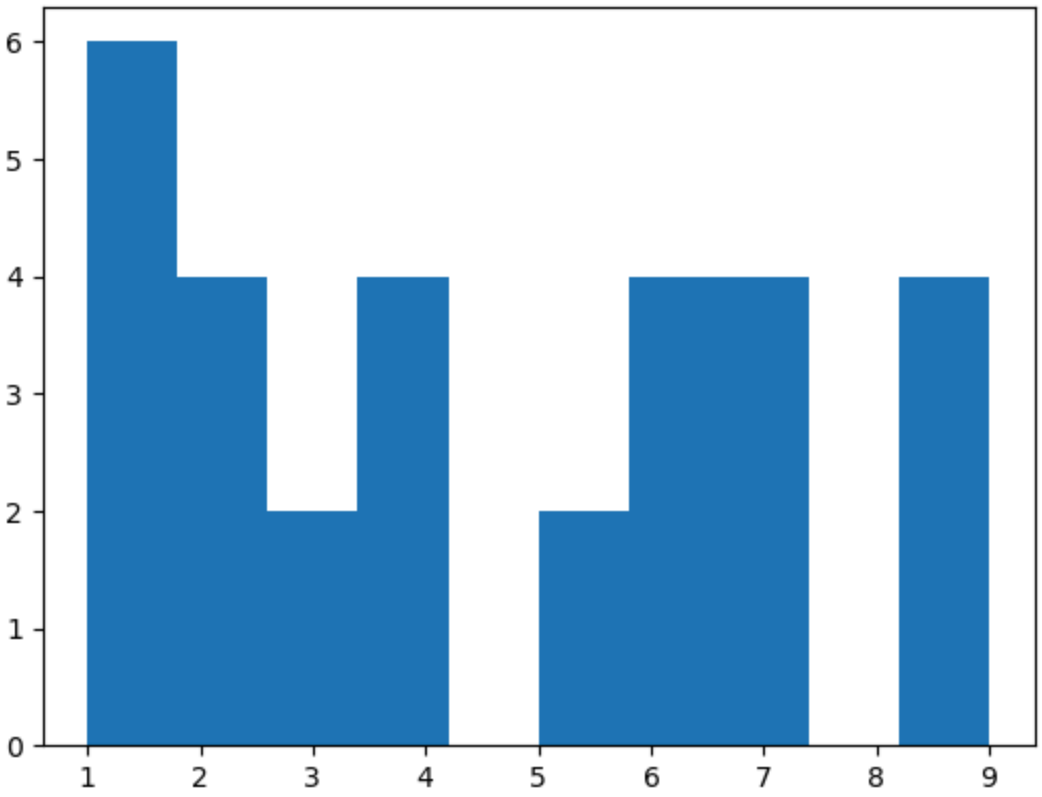


In [19]:
```
 a=(1,5,4,7,6,9,3,7,1,4,6,9,1)
 b=(10,20,12,51,42,47,43,32,20,29,25,78,10)
plt.scatter(a,b)
plt.title("scatter Chart")
plt.xlabel("x axis")

plt.ylabel("y axis")
plt.scatter(a,b, color="red")
plt.show()
```



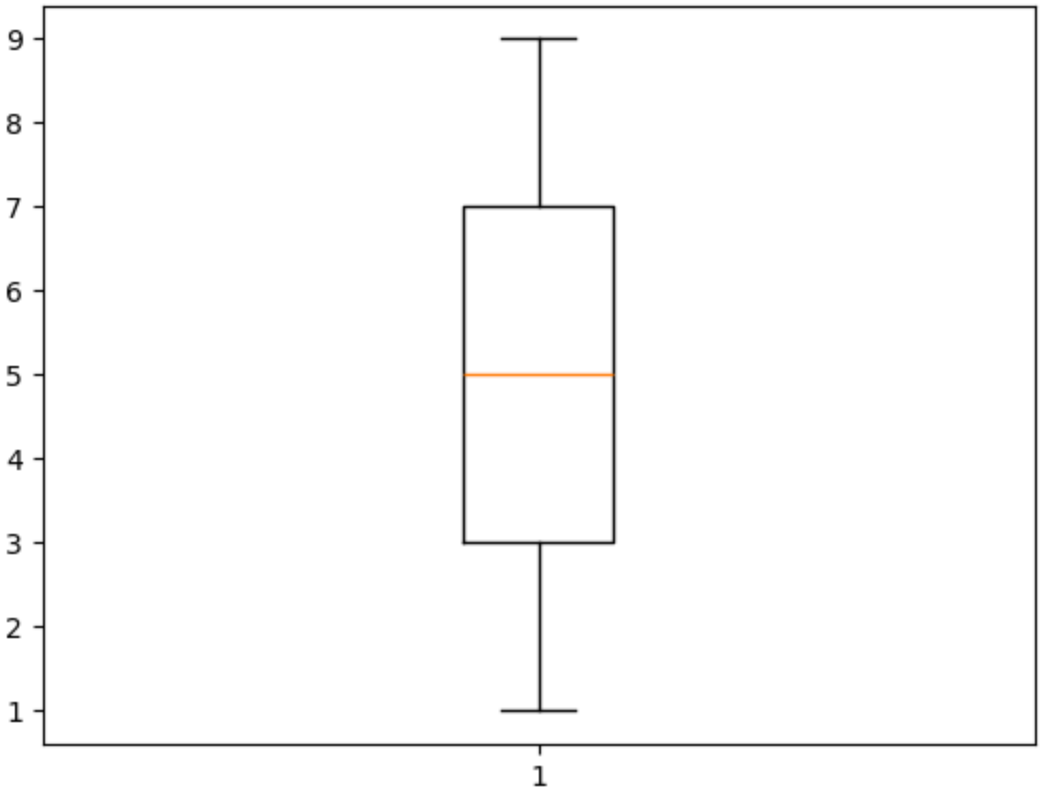
In [20]:
```
H=(1,5,4,7,6,9,3,7,1,4,6,9,1,1,5,4,7,6,9,3,7,1,4,6,9,1,2,2,2,2)
```

In [21]:
```
plt.hist(H)


plt.show()
```



In [22]:
```
B=[1,5,4,7,6,9,3,7,1,4,6,9,1]
```

In [23]:
```
plt.boxplot(B)
plt.show()
```



In [ ]: