Create a visualisation using matplotlib & pandas library

Task-3

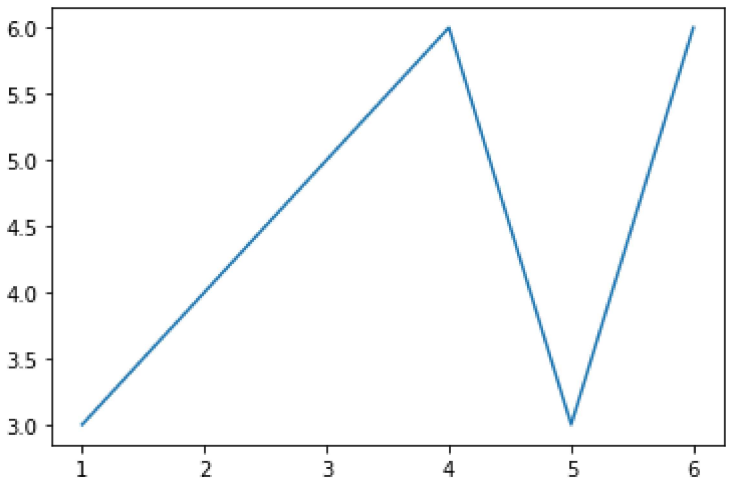
MATPLOT LIBRARY

installing packages

In [2]:
```
import os
import numpy as np
import pandas as pd
from matplotlib import pyplot as plt
import seaborn as sns
```

line graphs

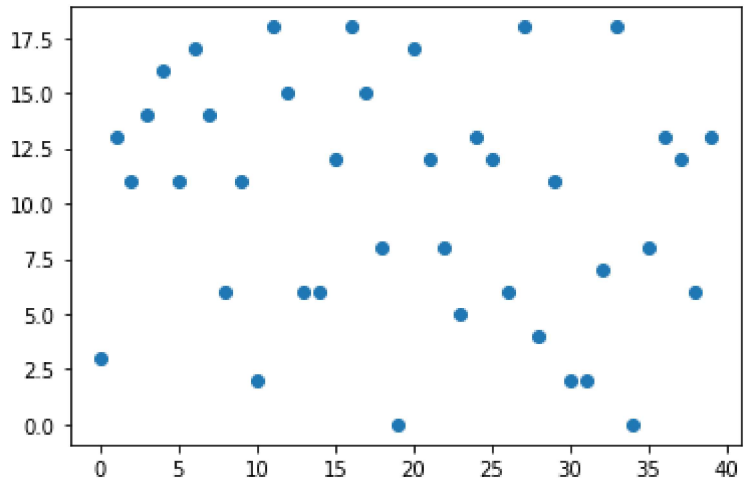
In [5]:
```
a = np.array([ 1,2,3,4,5,6 ])
b = np.array([ 3,4,5,6,3,6 ])
plt.plot(a,b)
plt.show()
```



In [8]:
```
plt.figure(figsize=(15,10))
a = np.array([ 1,2,3,4,5,6 ])
b = np.array([ 3,4,5,6,3,6 ])
c = np.array([ 4,4,6,3,4 ])
plt.plot(a,label='rent FY20', color='green', linestyle='-')
plt.plot(c,label='rent FY19', color='red', linestyle='--')
plt.plot(a,label='AVG rent', linewidth = 3)
plt.title('rent per month ',fontsize=20 ,fontweight='bold')
plt.legend(loc = 'upper center', fontsize=15)
plt.xticks(range(0,5), ('jan','feb','mar','apr','may','jun'))
plt.xlabel('month')
plt.ylabel('price')
plt.show()
```

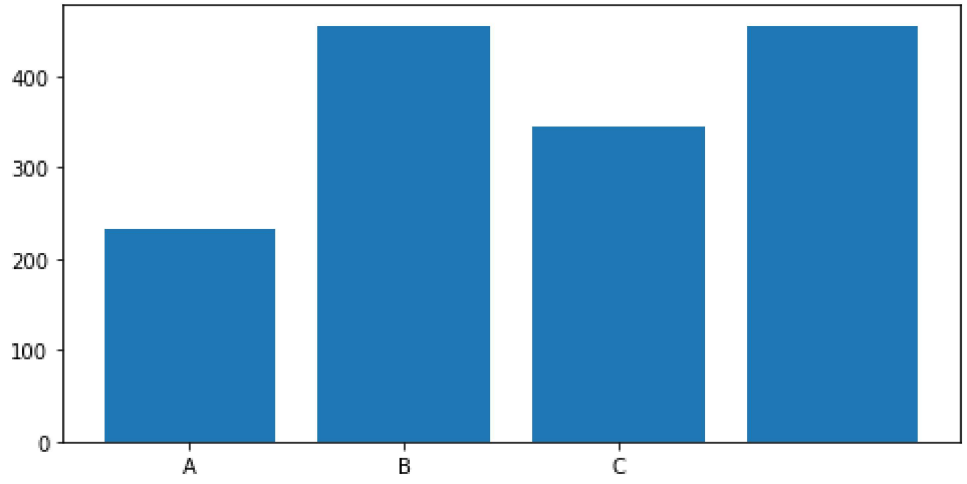
Scatter plots

In [9]:
```
a = np.arange(40)
b = np.random.randint(0,20,40)
plt.scatter(a,b)
plt.show()
```



Bar plots

In [12]:
```
categories =['A' , 'B' , 'C' , 'D']
spend = np.array([232,455,345,454])
categories_r = np.arange(len(categories))
plt.figure(figsize=(8,4))
plt.bar(categories_r, spend)
plt.xticks(range(0,3),categories)
plt.show()
```



histogram

In [15]:
```
a = 100 + 10 * np.random.randn(10000)
n, bins , patches = plt.hist(a, 7, facecolor='y')
plt.xlabel('square M of house')
plt.ylabel('no.house sales')
plt.title('house prices')
plt.show()
```

->i used only matplotlib but if i use pandas there will be more difference than others

PANDAS LIBRARY

insert sample data

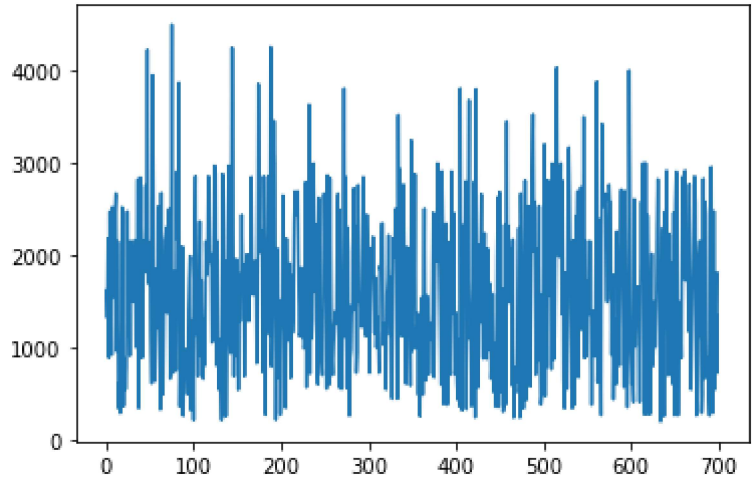
In [21]:
```
a = pd.read_csv('C:\\Users\\ACER\\Desktop\\financial.csv')
a.head()
```

Out[21]:

segment	country	product	Discount Band	Units Sold	Manufacturing Price	Sale Price	Gross Sales	Discounts	
Government	Canada	Carretera	None	1618.5	$3.00	$20.00	$32,370.00	$-	$
Government	Germany	Carretera	None	1321.0	$3.00	$20.00	$26,420.00	$-	$
Midmarket	France	Carretera	None	2178.0	$3.00	$15.00	$32,670.00	$-	$
Midmarket	Germany	Carretera	None	888.0	$3.00	$15.00	$13,320.00	$-	$
Midmarket	Mexico	Carretera	None	2470.0	$3.00	$15.00	$37,050.00	$-	$

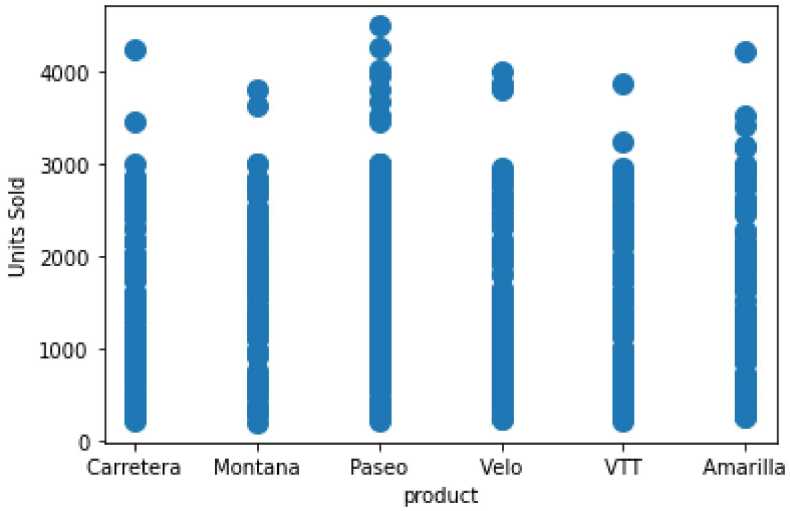
lineplots

In [22]:
```
plt.plot(a['Units Sold'])
plt.show()
plt.clf()
plt.cla()
plt.close()
```



scatter plot

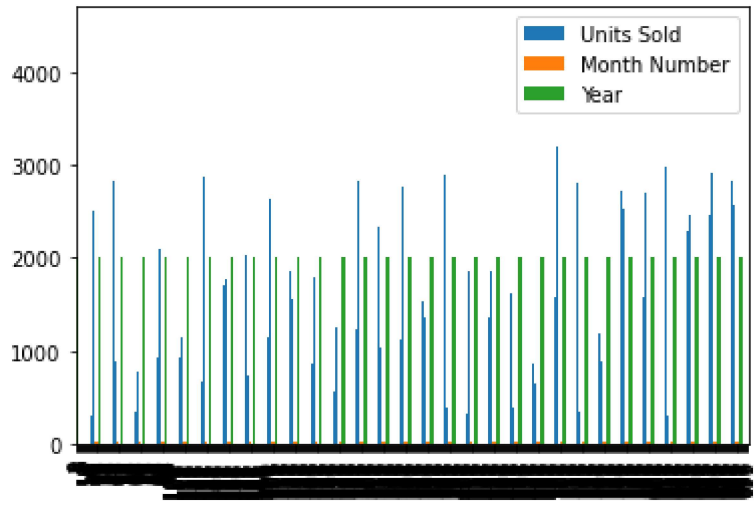
In [38]:
```
a.plot.scatter(x = 'product', y = 'Units Sold', s = 100);
```



bar plot

In [39]:
```
a.plot.bar()
```

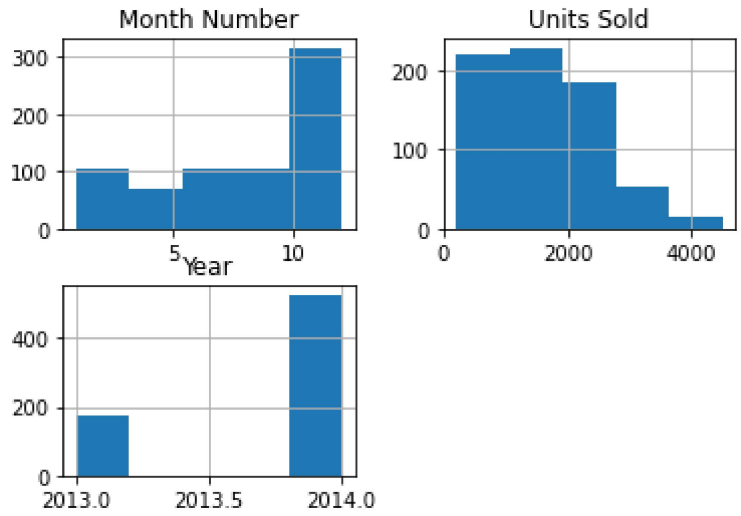
Out[39]:
```
<matplotlib.axes._subplots.AxesSubplot at 0xa1faac0>
```



histogram

In [40]:
```
a.hist(bins=5)
```

Out[40]:
```
array([[<matplotlib.axes._subplots.AxesSubplot object at 0x0BBEE508>,
        <matplotlib.axes._subplots.AxesSubplot object at 0x0BD9A580>],
       [<matplotlib.axes._subplots.AxesSubplot object at 0x0BDA5208>,
        <matplotlib.axes._subplots.AxesSubplot object at 0x0BDB95C8>]],
      dtype=object)
```



-> now you will see difference in every thing including syntax

Done by:-

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