In [2]:
```
import numpy as np
```

In [4]:
```
a=np.absolute(-5)
```

In [6]:
```
print(a)
```

```
5
```

In [7]:
```
a=np.array(1,2,3,4,5)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-7-f521dd585109> in <module>
----> 1 a=np.array(1,2,3,4,5)

TypeError: array() takes from 1 to 2 positional arguments but 5 were given
```

In [8]:
```
a=np.array[1,2,3,4,5]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-8-a2b721f5979a> in <module>
----> 1 a=np.array[1,2,3,4,5]

TypeError: 'builtin_function_or_method' object is not subscriptable
```

In [9]:
```
a=np.array([1,2,3,4,5])
print(a)
```

```
[1 2 3 4 5]
```

In [10]:
```
a=np.array([1,2,3,4,5])
print(a)
```

```
[1 2 3 4 5]
```

In [11]:
```
print(type(a))
```

```
<class 'numpy.ndarray'>
```

In [12]:
```
a.shape
```

Out[12]:
```
(5,)
```

In [15]:
```
b=np.array([[1,2,3,4,5],[5,6,7,8,9]])
print(b)
```

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

In [16]:
```
b.shape
```

Out[16]: (2, 5)

In [17]:
```
b.T
```

Out[17]:
```
array([[1, 5],
       [2, 6],
       [3, 7],
       [4, 8],
       [5, 9]])
```

In [19]:
```
np.dot(b,b.T)
```

Out[19]:
```
array([[ 55, 115],
       [115, 255]])
```

In [20]:
```
np.random.randint(60,150,20)
```

Out[20]:
```
array([137, 147, 137, 117, 124, 116, 140, 122, 110, 100, 118,  81, 135,
       107,  65, 102,  93, 122, 132, 124])
```

In [21]:
```
np.random.randint(60,70,10)
```

Out[21]:
```
array([67, 61, 61, 69, 62, 66, 67, 66, 63, 69])
```

In [23]:
```
np.random.randint(60,150,(2,2))
```

Out[23]:
```
array([[127, 120],
       [ 69, 115]])
```

In [24]:
```
matrix=np.random.randint(60,150,(2,2))
print(matrix)
```

```
[[ 75  90]
 [ 70 138]]
```

In [25]:
```
np.max(matrix)
```

Out[25]: 138

In [26]:
```
np.min(matrix)
```

Out[26]: 70

In [27]:
```
a=np.array([0,1,1,1,1,2,2,2,2,3,3,3,3,-9])
print(np.argmin(a))
```

```
13
```

In [29]:
```
a=np.array([0,1,1,1,1,2,2,2,2,3,3,3,3,-9])
print(np.unique(a))
```

```
[-9  0  1  2  3]
```

In [30]:
```
np.random.randint(60,150,(5,5))
```

Out[30]:
```
array([[108, 100, 138, 126,  77],
       [ 99,  99, 141, 128, 142],
       [149,  69, 129, 116,  86],
       [ 61,  83, 107, 133, 126],
       [ 81, 122, 114, 100,  88]])
```

In [32]:
```
matrix[2:3,1:3]
```

Out[32]:
```
array([], shape=(0, 1), dtype=int32)
```

In [33]:
```
array
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-33-7e71d2f093c1> in <module>
----> 1 array

NameError: name 'array' is not defined
```

In [34]:
```
matrix
```

Out[34]:
```
array([[ 75,  90],
       [ 70, 138]])
```

In [35]:
```
matrix=np.random.randint(60,150,(5,5))
print(matrix)
```

```
[[111 101 122 123  78]
 [ 68 100 141  75 125]
 [144 112 102 105 132]
 [ 74 122  95  96 141]
 [124 110 101  98  98]]
```

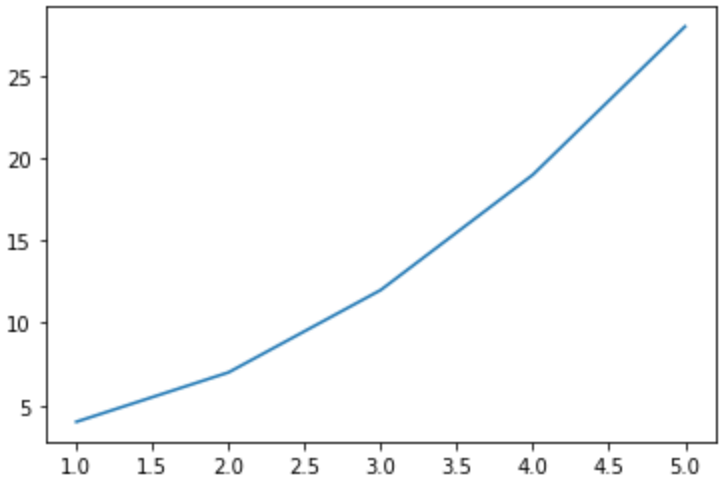
In [36]:
```
matrix[2:4,1:4]
```

Out[36]:
```
array([[112, 102, 105],
       [122,  95,  96]])
```

In [37]:
```
import matplotlib.pyplot as plt
x=np.array([1,2,3,4,5])
y=x**2+3
print(x)
print(y)
plt.plot(x,y)
```

```
Matplotlib is building the font cache; this may take a moment.
[1 2 3 4 5]
[ 4  7 12 19 28]
```

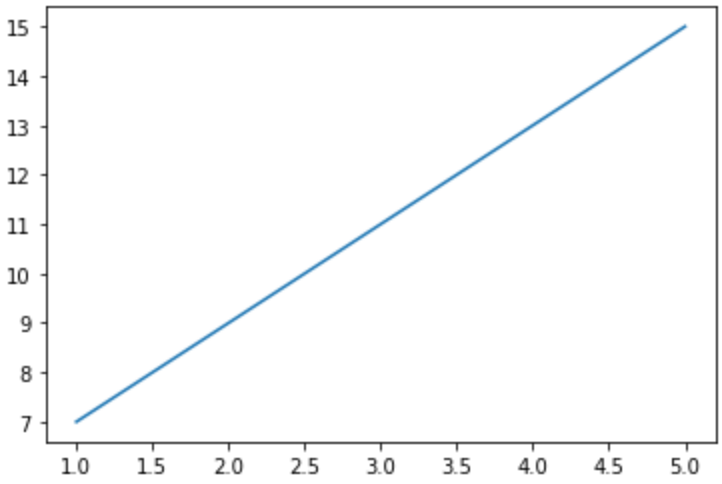
Out[37]:
```
[<matplotlib.lines.Line2D at 0x28b05790>]
```



In [39]:
```
import matplotlib.pyplot as plt
x=np.array([1,2,3,4,5])
y=2*x+5
print(x)
print(y)
plt.plot(x,y)
```

```
[1 2 3 4 5]
[ 7  9 11 13 15]
```

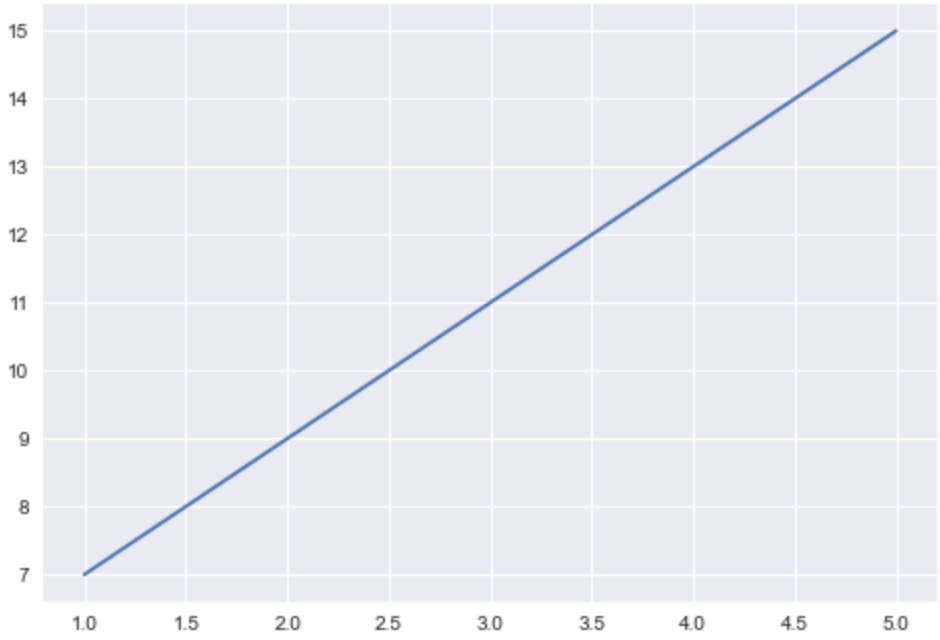
Out[39]: [<matplotlib.lines.Line2D at 0x28be6f70>]



In [40]:
```
plt.style.use('seaborn')
```

In [42]:
```
plt.plot(x,y)
```

Out[42]: [<matplotlib.lines.Line2D at 0x28c28a90>]

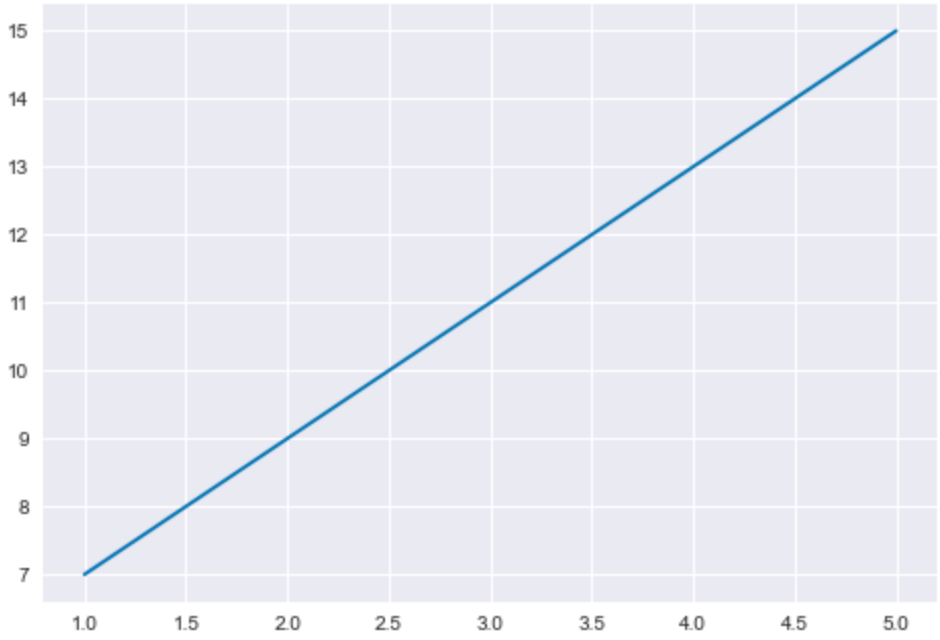


In [43]:
```
plt.style.available
```

Out[43]:
```
['Solarize_Light2',
 '_classic_test_patch',
 'bmh',
 'classic',
 'dark_background',
 'fast',
 'fivethirtyeight',
 'ggplot',
 'grayscale',
 'seaborn',
 'seaborn-bright',
 'seaborn-colorblind',
 'seaborn-dark',
 'seaborn-dark-palette',
 'seaborn-darkgrid',
 'seaborn-deep',
 'seaborn-muted',
 'seaborn-notebook',
 'seaborn-paper',
 'seaborn-pastel',
 'seaborn-poster',
 'seaborn-talk',
 'seaborn-ticks',
 'seaborn-white',
 'seaborn-whitegrid',
 'tableau-colorblind10']
```

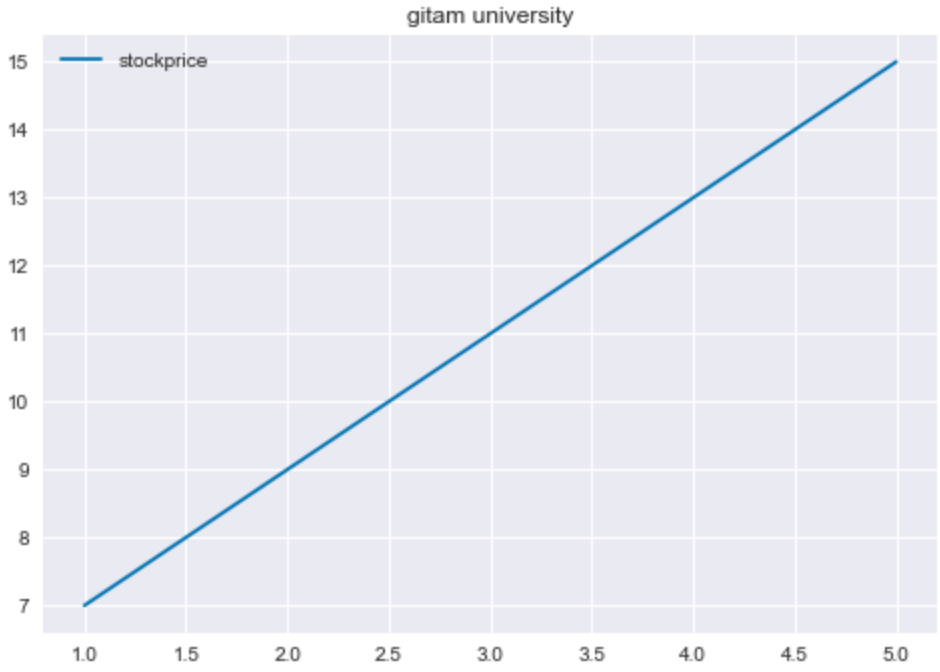
In [48]:
```
plt.style.use('seaborn-colorblind')
plt.plot(x,y)
```

Out[48]:
```
[<matplotlib.lines.Line2D at 0x28d67b80>]
```



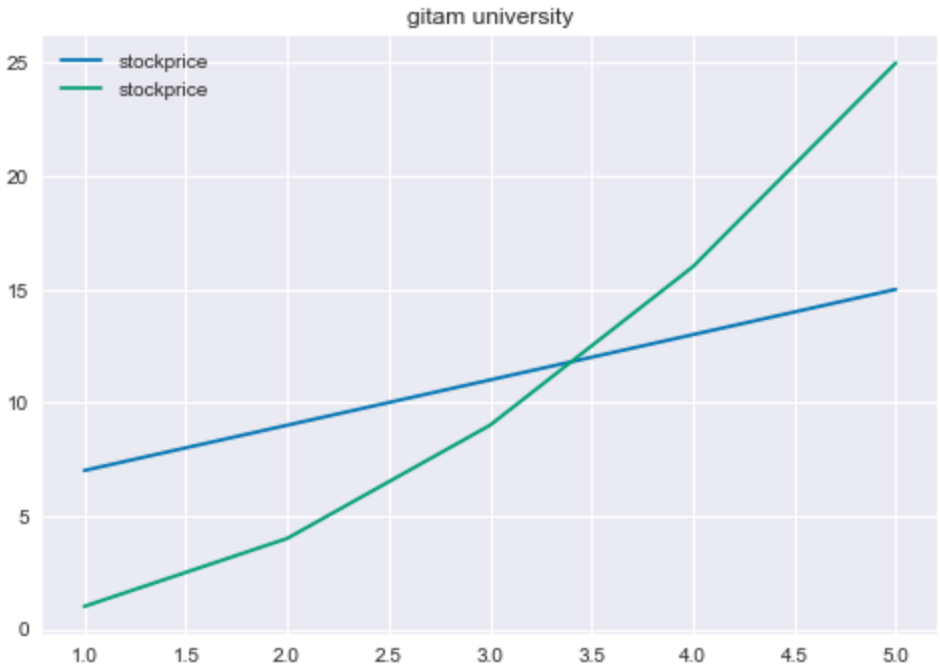
In [51]:

```
plt.plot(x,y ,label="stockprice")
plt.title("gitam university")
plt.legend()
plt.show()
```



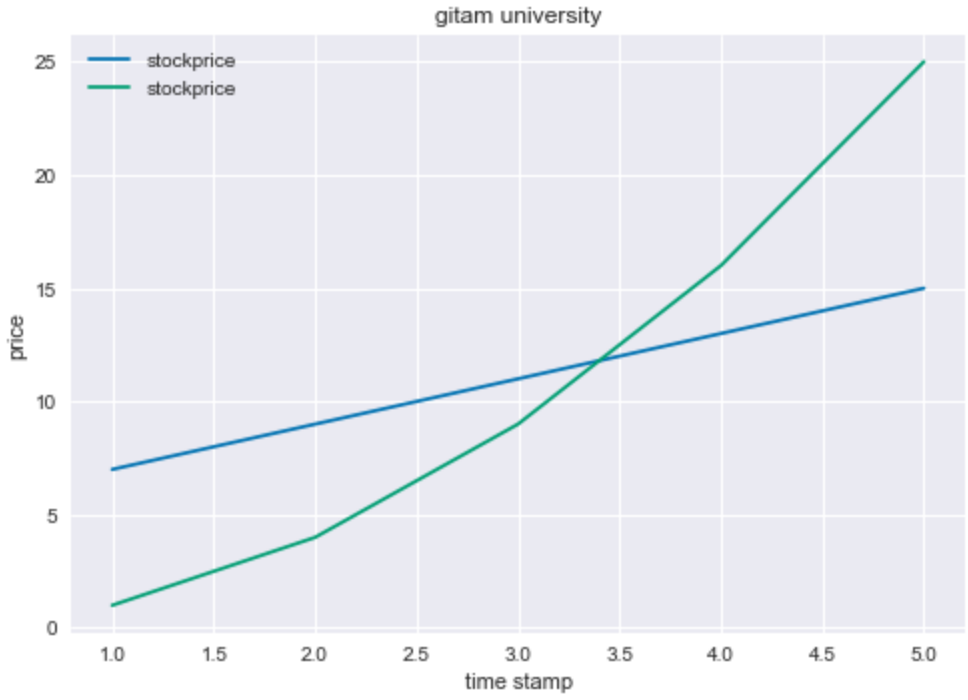
In [52]:

```
plt.plot(x,y ,label="stockprice")
plt.plot(x,x**2 ,label="stockprice")
plt.title("gitam university")
plt.legend()
plt.show()
```



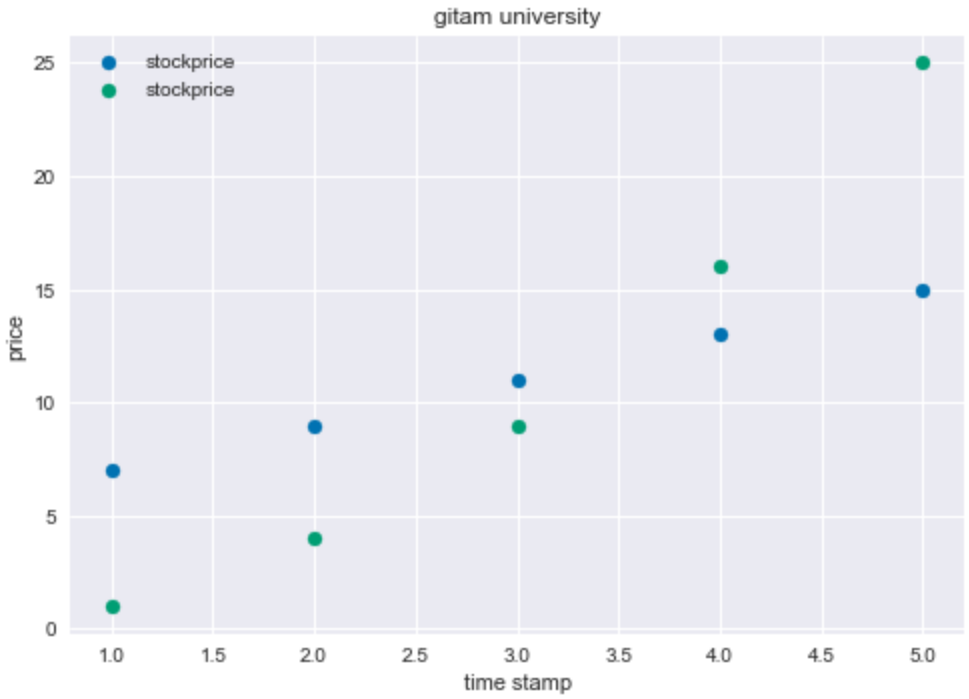
In [53]:

```
plt.plot(x,y ,label="stockprice")
plt.plot(x,x**2 ,label="stockprice")
plt.title("gitam university")
plt.xlabel("time stamp")
plt.ylabel("price")
plt.legend()
plt.show()
```



In [54]:

```
plt.scatter(x,y ,label="stockprice")
plt.scatter(x,x**2 ,label="stockprice")
plt.title("gitam university")
plt.xlabel("time stamp")
plt.ylabel("price")
plt.legend()
plt.show()
```



In [56]:
```
import cv2
cv2.imread('/Desktop/SKRAGHU')
```

```
---------------------------------------------------------------------------
ModuleNotFoundError                       Traceback (most recent call last)
<ipython-input-56-295f29e2c494> in <module>
----> 1 import cv2
      2 cv2.imread('/Desktop/SKRAGHU')

ModuleNotFoundError: No module named 'cv2'
```

In [ ]:
```
```

In [58]:
```
import cv2
cv2.imread('Desktop/raghu.jpg')
```

```
---------------------------------------------------------------------------
ModuleNotFoundError                       Traceback (most recent call last)
<ipython-input-58-f04de752cc35> in <module>
----> 1 import cv2
      2 cv2.imread('Desktop/raghu.jpg')

ModuleNotFoundError: No module named 'cv2'
```

In [70]:
```
import cv2
cv2.imread("raghu.jpg")
```

In [61]:
```
```

In [66]:
```
import cv2
cv2.imread('SKRAGHU.jpg')
```

In [67]:
```
```

```
img=cv2.imread('raghu.jpg')
print(img.shape)
plt.imshow(img)
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-67-8efc5dc435a2> in <module>
      1 img=cv2.imread('raghu.jpg')
----> 2 print(img.shape)
      3 plt.imshow(img)

AttributeError: 'NoneType' object has no attribute 'shape'
```

In [74]:
```
import cv2
cv2.imread('raghu.jpg')
```

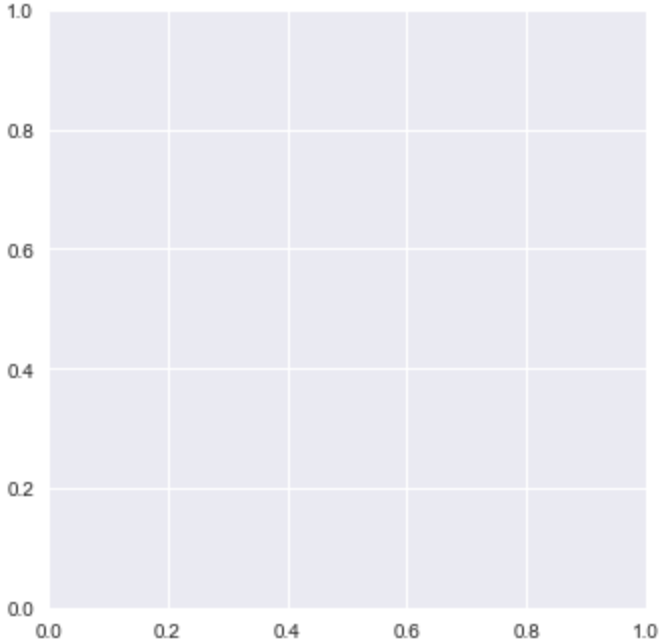
In [75]:
```
img=cv2.imread('raghu.jpg')
```

In [76]:
```
plt.imshow(img)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-76-23af6c37b3d0> in <module>
----> 1 plt.imshow(img)

c:\users\sony\appdata\local\programs\python\python38\lib\site-packages\matplotlib\pyplot.py in ims
how(X, cmap, norm, aspect, interpolation, alpha, vmin, vmax, origin, extent, filternorm, filterrad, re
sample, url, data, **kwargs)
   2722         filternorm=True, filterrad=4.0, resample=None, url=None,
   2723         data=None, **kwargs):
-> 2724     __ret = gca().imshow(
   2725         X, cmap=cmap, norm=norm, aspect=aspect,
   2726         interpolation=interpolation, alpha=alpha, vmin=vmin,

c:\users\sony\appdata\local\programs\python\python38\lib\site-packages\matplotlib\__init__.py in inn
er(ax, data, *args, **kwargs)
   1445     def inner(ax, *args, data=None, **kwargs):
   1446         if data is None:
-> 1447             return func(ax, *map(sanitize_sequence, args), **kwargs)
   1448
   1449         bound = new_sig.bind(ax, *args, **kwargs)

c:\users\sony\appdata\local\programs\python\python38\lib\site-packages\matplotlib\axes\_axes.py in
imshow(self, X, cmap, norm, aspect, interpolation, alpha, vmin, vmax, origin, extent, filternorm, filt
errad, resample, url, **kwargs)
   5521                               resample=resample, **kwargs)
   5522
-> 5523         im.set_data(X)
   5524         im.set_alpha(alpha)
   5525         if im.get_clip_path() is None:

c:\users\sony\appdata\local\programs\python\python38\lib\site-packages\matplotlib\image.py in set_
data(self, A)
    700         if (self._A.dtype != np.uint8 and
    701                 not np.can_cast(self._A.dtype, float, "same_kind")):
--> 702             raise TypeError("Image data of dtype {} cannot be converted to "
```

```
703                     "float".format(self._A.dtype))
704
```

TypeError: Image data of dtype object cannot be converted to float



In [78]:
```
import cv2
```

In [82]:
```
img=cv2.imread('raghu.jpg')
print(img.shape)
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-82-3c594c57a650> in <module>
      1 img=cv2.imread('raghu.jpg')
----> 2 print(img.shape)

AttributeError: 'NoneType' object has no attribute 'shape'
```

In [83]:
```
print(img.shape)
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-83-fcb8c7c32d80> in <module>
----> 1 print(img.shape)

AttributeError: 'NoneType' object has no attribute 'shape'
```

In [84]:
```
import pandas as pd
avengers={"Avengers_Height":np.random.randint(1,100,5),"Avengers_Weight":np.random.randint(5
```

In [86]:
```
df=pd.DataFrame(avengers)
print(df)
```

```
   Avengers_Height  Avengers_Weight  Avengers_power
0               23               99             192
1               33               92             147
```

```
2              1            65           154
3             19            58           180
4             89            74           158
```

In [87]:
```
df.head
```

Out[87]:
```
<bound method NDFrame.head of    Avengers_Height  Avengers_Weight  Avengers_power
0              23            99           192
1              33            92           147
2               1            65           154
3              19            58           180
4              89            74           158>
```

In [88]:
```
df.head
```

Out[88]:
```
<bound method NDFrame.head of    Avengers_Height  Avengers_Weight  Avengers_power
0              23            99           192
1              33            92           147
2               1            65           154
3              19            58           180
4              89            74           158>
```

In [89]:
```
df.head(n=3)
```

Out[89]:

	Avengers_Height	Avengers_Weight	Avengers_power
0	23	99	192
1	33	92	147
2	1	65	154

In [92]:
```
print(df.columns)
```

```
Index(['Avengers_Height', 'Avengers_Weight', 'Avengers_power'], dtype='object')
```

In [93]:
```
df.to_csv("avenger_data.csv")
```

In [94]:
```
df.to_csv("avenger_data.csv")
```

In [ ]: