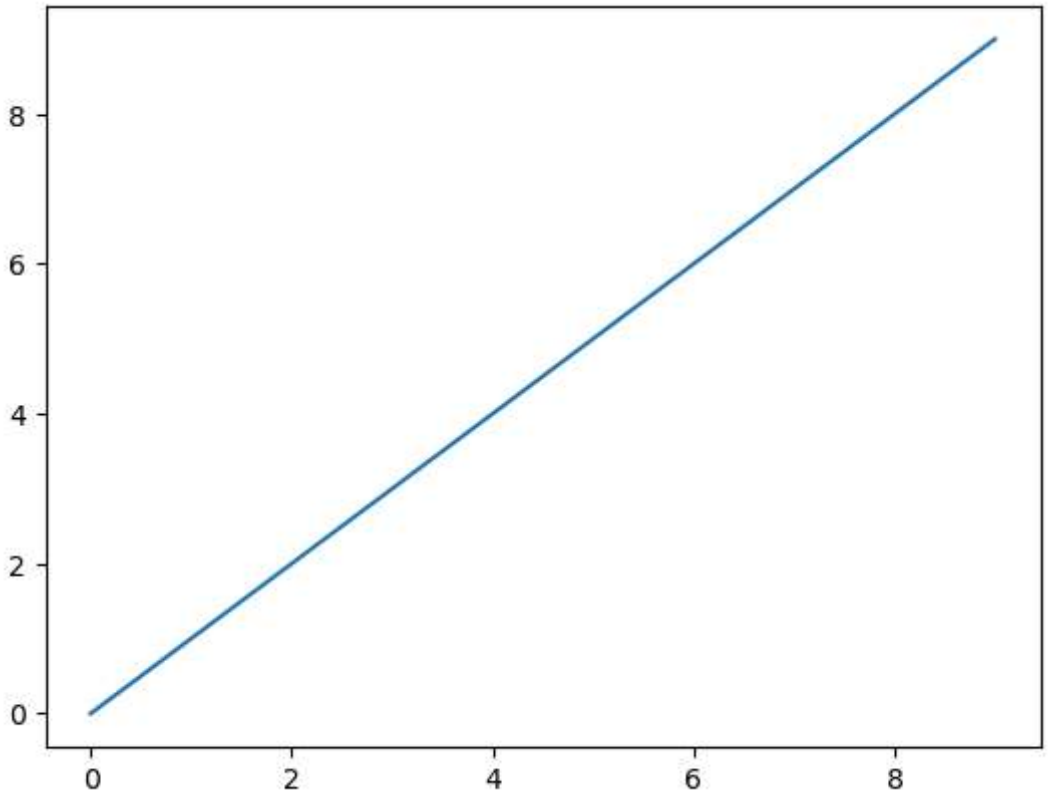
In [1]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

```

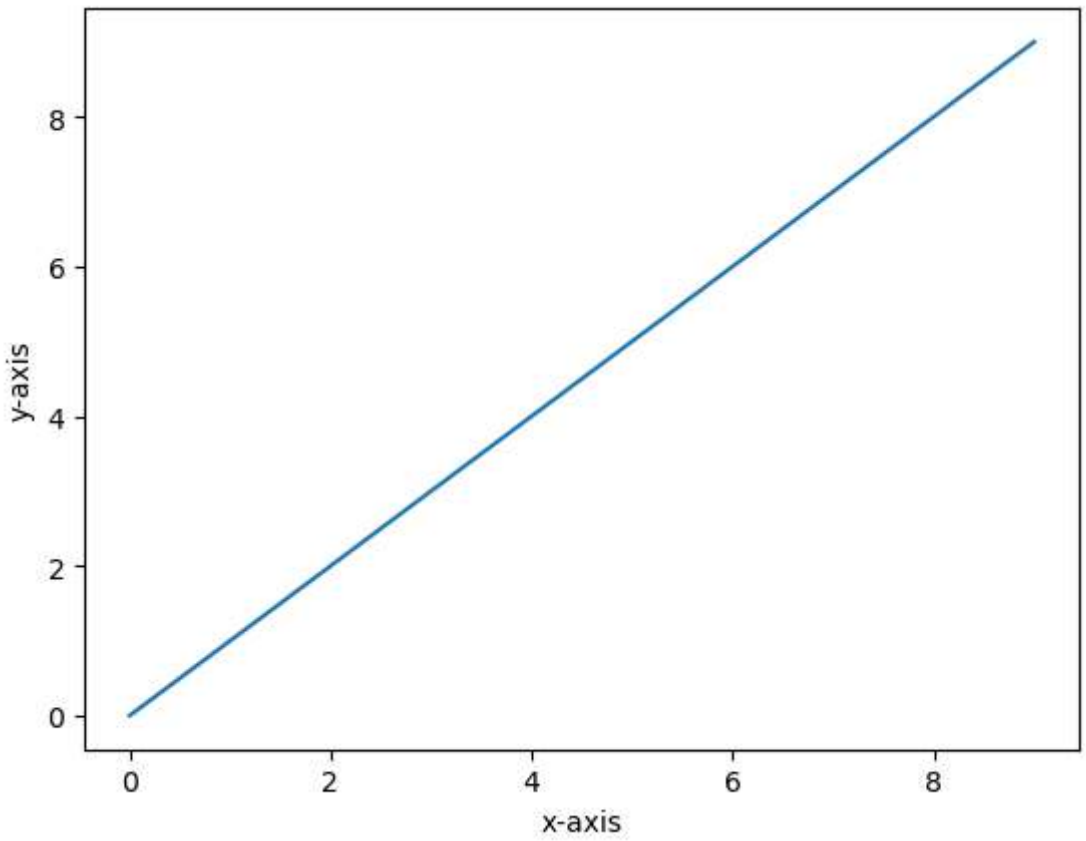
In [2]:
```
array= np.arange(10)
array
```

Out[2]:
```
array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9])
```

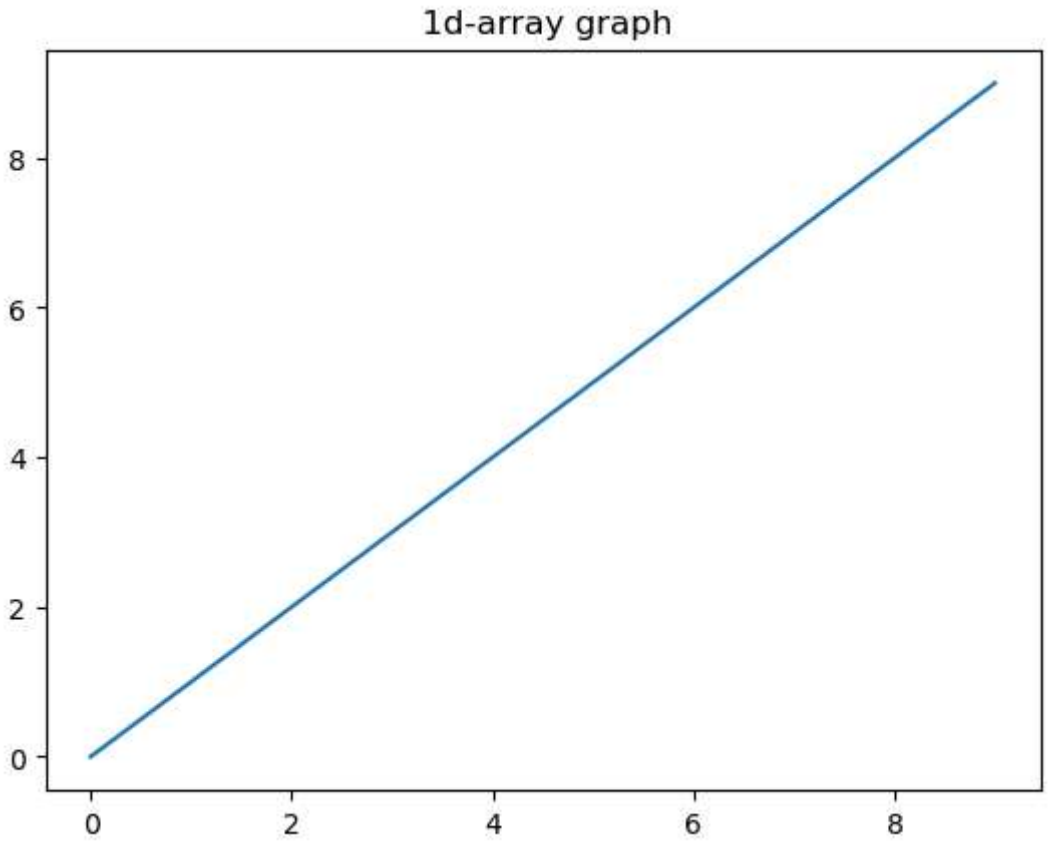
In [12]:
```
#plot 1d array...
plt.plot(array)
plt.show()
```



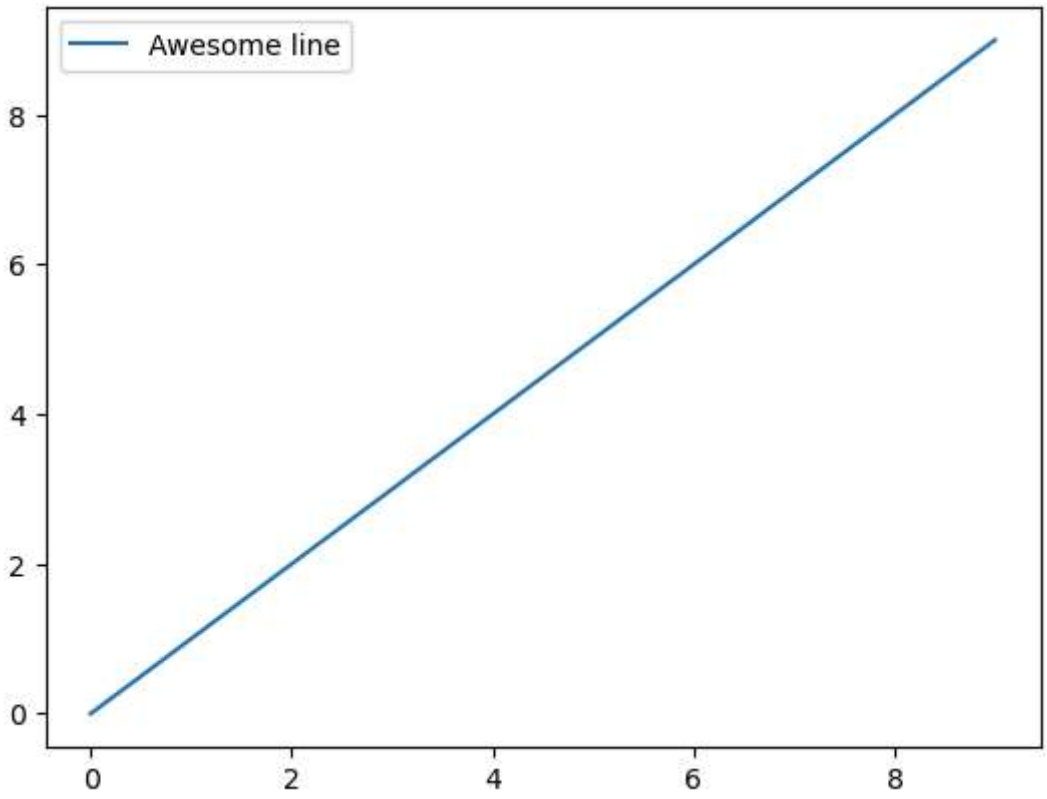
In [13]:
```
#giving axises to the graph
plt.xlabel("x-axis")
plt.ylabel("y-axis")
plt.plot(array)
plt.show()
```



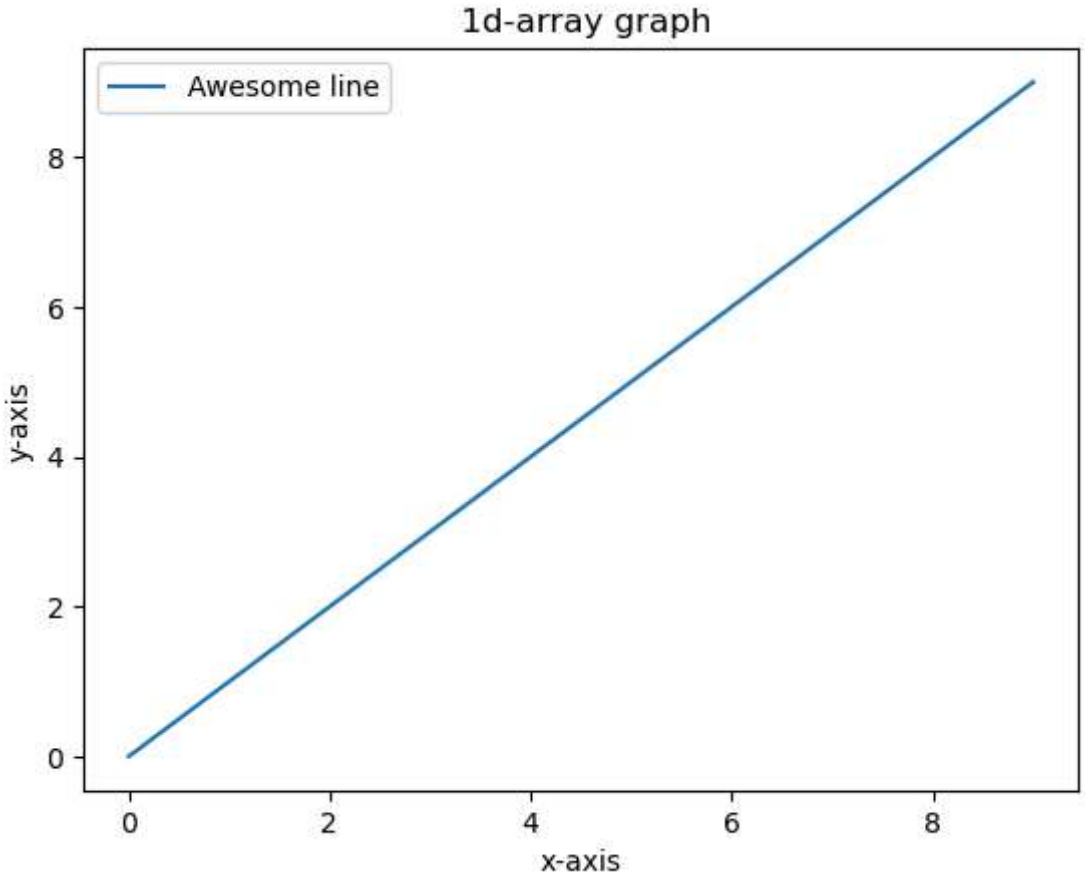
In [15]:
```
#giving title to the graph

plt.title(" 1d-array graph")
plt.plot(array)
plt.show()
```



In [17]:
```
#giving inner label...
plt.plot(array, label="Awesome line")
plt.legend()
plt.show()
```

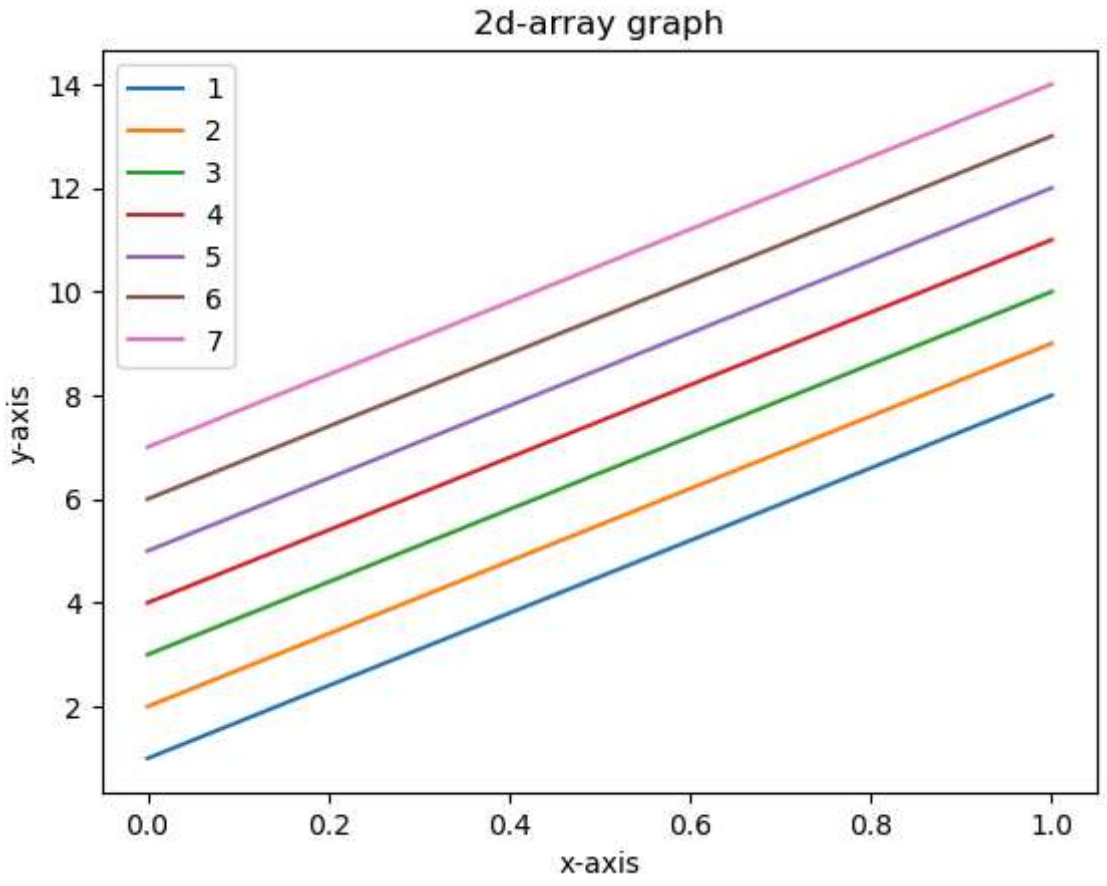


In [19]:
```
 # all apply in one graph..
plt.plot(array, label="Awesome line")
plt.xlabel("x-axis")
plt.ylabel("y-axis")
plt.title(" 1d-array graph")
plt.legend()
plt.show()
```



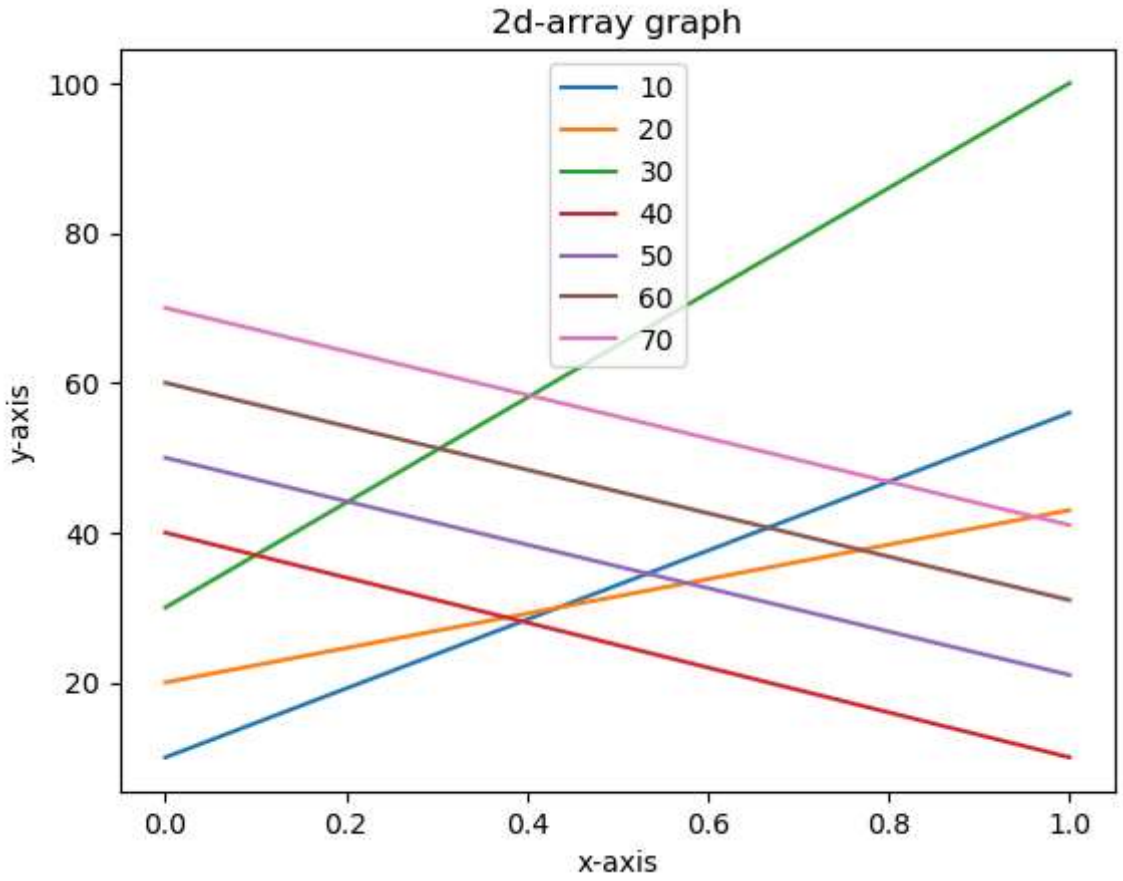
In [52]:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

array= np.array([[1,2,3,4,5,6,7],
                 [8,9,10,11,12,13,14]])

plt.plot(array, label="crazy lines")
plt.xlabel("x-axis")
plt.ylabel("y-axis")
plt.title("2d-array graph")
plt.legend(['1','2','3','4','5','6','7'])
plt.show()
```

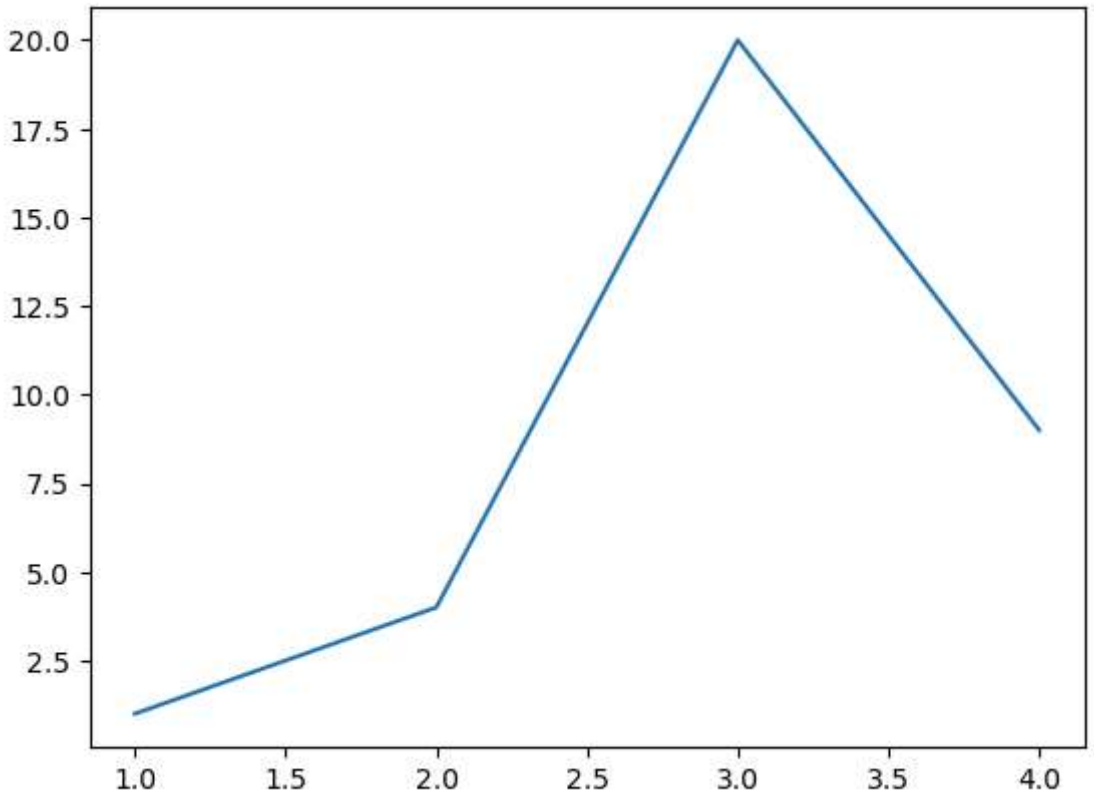


In [51]:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

array= np.array([[10,20,30,40,50,60,70],
                 [56,43,100,10,21,31,41]])

plt.plot(array)
plt.xlabel("x-axis")
plt.ylabel("y-axis")
plt.title("2d-array graph")
plt.legend(['10','20','30','40','50','60','70'])
plt.show()
```



In [32]:
```
x_vals = [1,2,3,4]
y_vals = [1,4,20,9]
plt.plot(x_vals, y_vals)
plt.show()
```

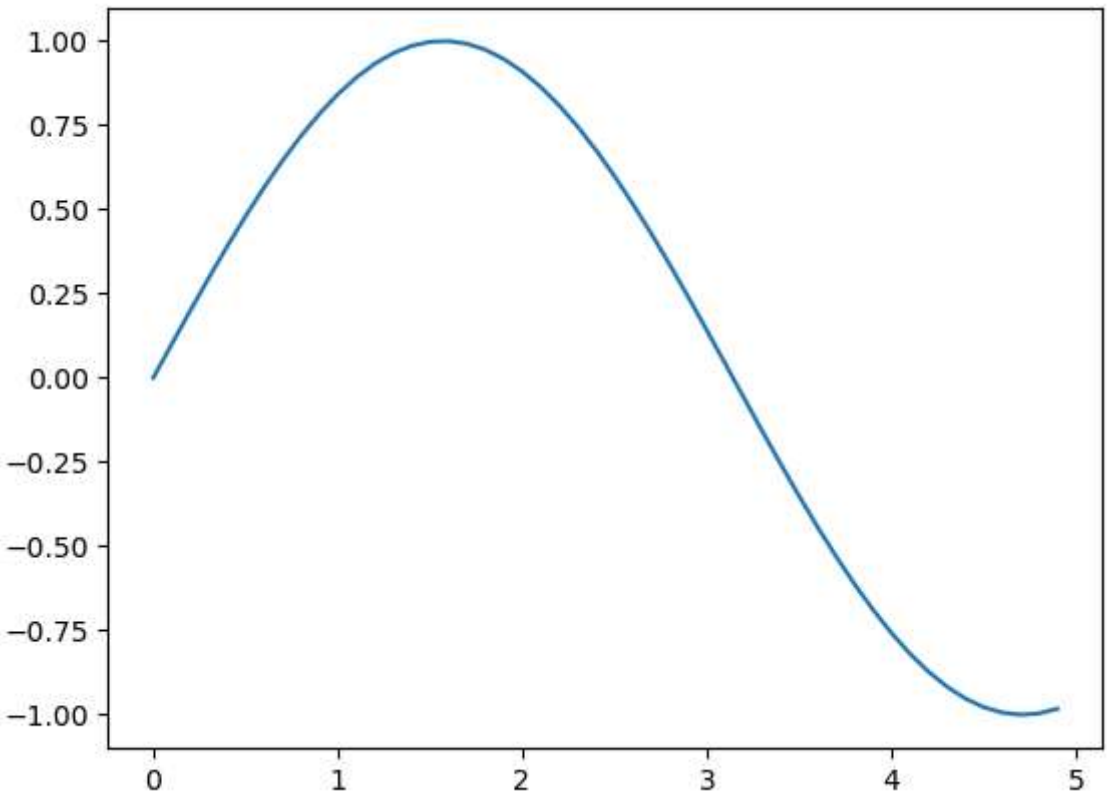


In [38]:
```
import numpy as np
import matplotlib.pyplot as plt

x = np.arange(0, 5, 0.1);
y = np.sin(x)
print("x values")
print(x)
print("y values")
print(y)
```

```
x values
[0.  0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.  1.1 1.2 1.3 1.4 1.5 1.6 1.7
 1.8 1.9 2.  2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.  3.1 3.2 3.3 3.4 3.5
 3.6 3.7 3.8 3.9 4.  4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9]
y values
[ 0.          0.09983342  0.19866933  0.29552021  0.38941834  0.47942554
  0.56464247  0.64421769  0.71735609  0.78332691  0.84147098  0.89120736
  0.93203909  0.96355819  0.98544973  0.99749499  0.9995736   0.99166481
  0.97384763  0.94630009  0.90929743  0.86320937  0.8084964   0.74570521
  0.67546318  0.59847214  0.51550137  0.42737988  0.33498815  0.23924933
  0.14112001  0.04158066 -0.05837414 -0.15774569 -0.2555411  -0.35078323
 -0.44252044 -0.52983614 -0.61185789 -0.68776616 -0.7568025  -0.81827711
 -0.87157577 -0.91616594 -0.95160207 -0.97753012 -0.993691   -0.99992326
 -0.99616461 -0.98245261]
```

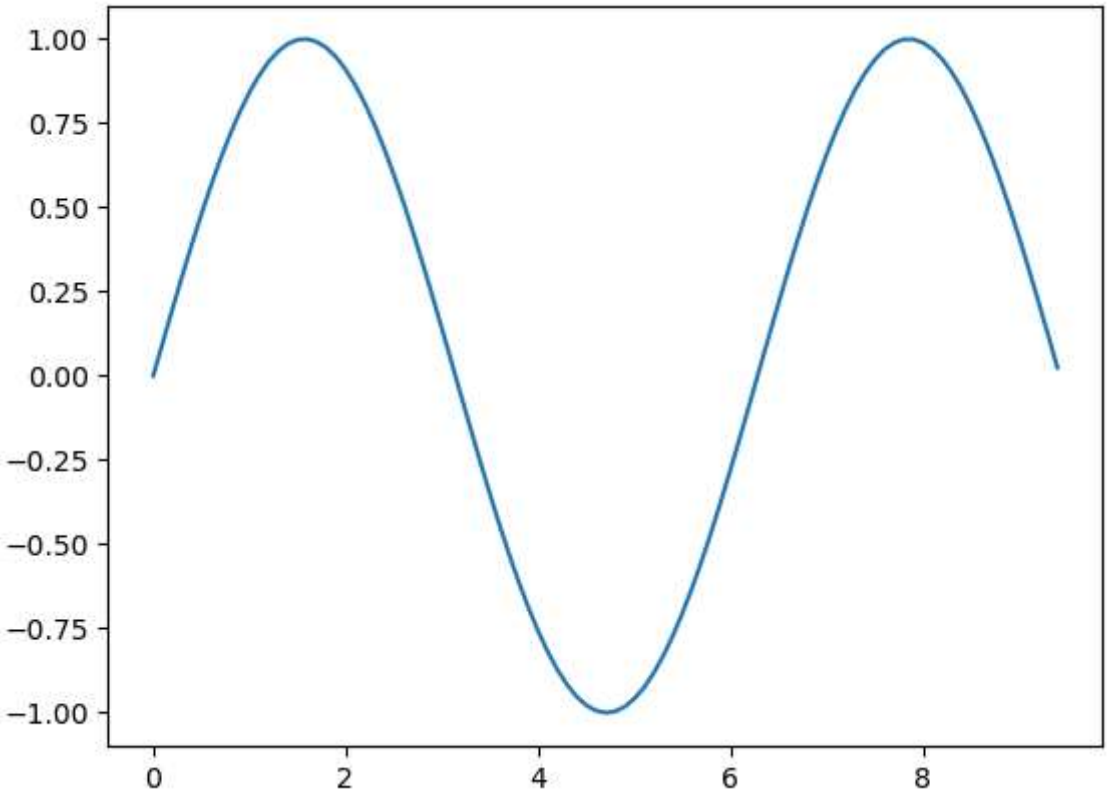
In [39]:
```
1 plt.plot(x,y)
```

Out[39]:
```
[<matplotlib.lines.Line2D at 0x20fe39a7c50>]
```



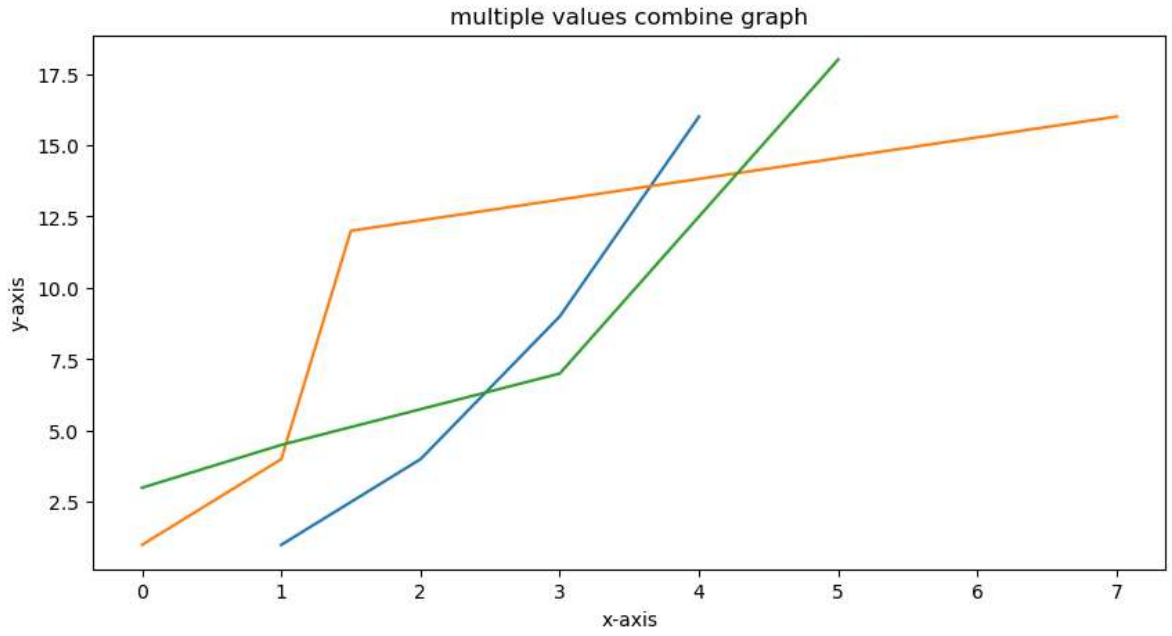
In [42]:

```
x = np.arange(0, 3 * np.pi, 0.1)
y = np.sin(x)


# Plot the points using matplotlib
plt.plot(x, y)
plt.show()
```



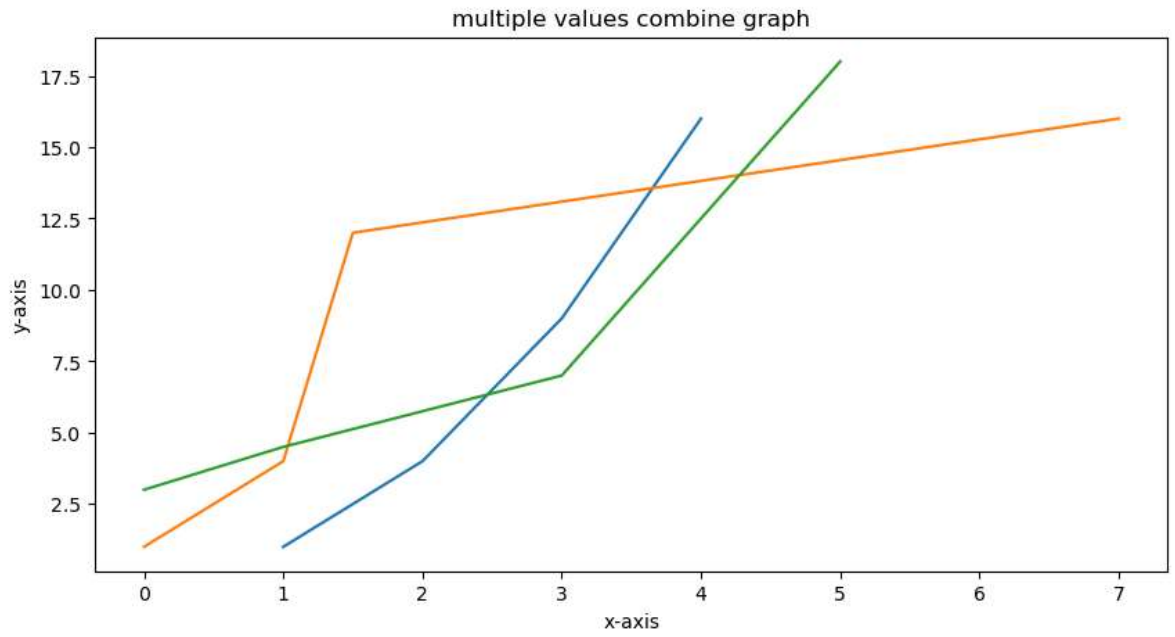
In [50]:

```
(x1,y1)= ([1,2,3,4], [1, 4, 9, 16])
(x2,y2) = ([0,1,1.5,7], [1,4,12,16])
(x3,y3)= ([0,1,3,5], [3,4.5,7,18])


# plot the data
plt.figure(figsize=(10, 5))

plt.plot(x1,y1)
plt.plot(x2,y2)
plt.plot(x3,y3)

plt.xlabel('x-axis')
plt.ylabel('y-axis')
plt.title("multiple values combine graph")

plt.show()
```



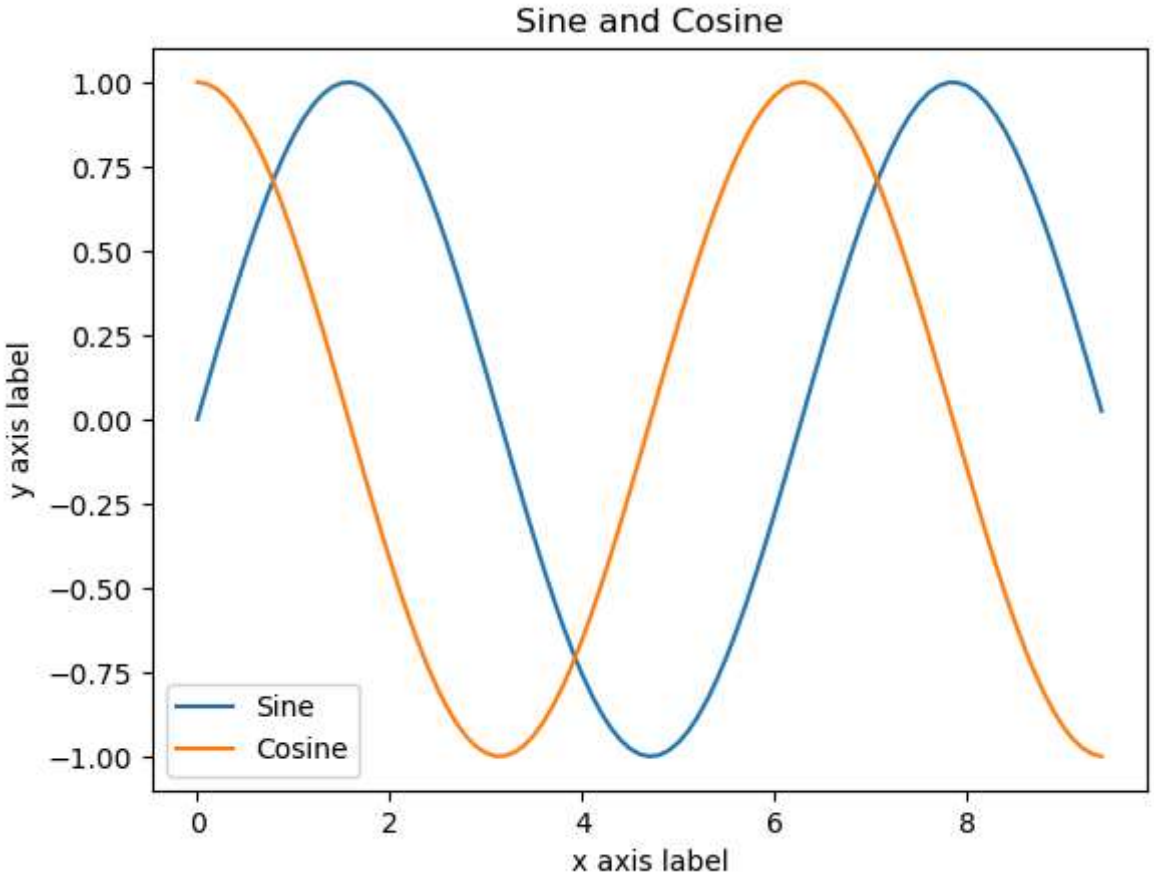
In [47]:

```
(x1,y1)= ([1,2,3,4], [1, 4, 9, 16])
(x2,y2) = ([0,1,1.5,7], [1,4,12,16])
(x3,y3)= ([0,1,3,5], [3,4.5,7,18])

# plot the data
plt.figure(figsize=(10, 5))

plt.plot(x1,y1,x2,y2,x3,y3)

plt.xlabel('x-axis')
plt.ylabel('y-axis')
plt.title("multiple values combine graph")

plt.show()
```



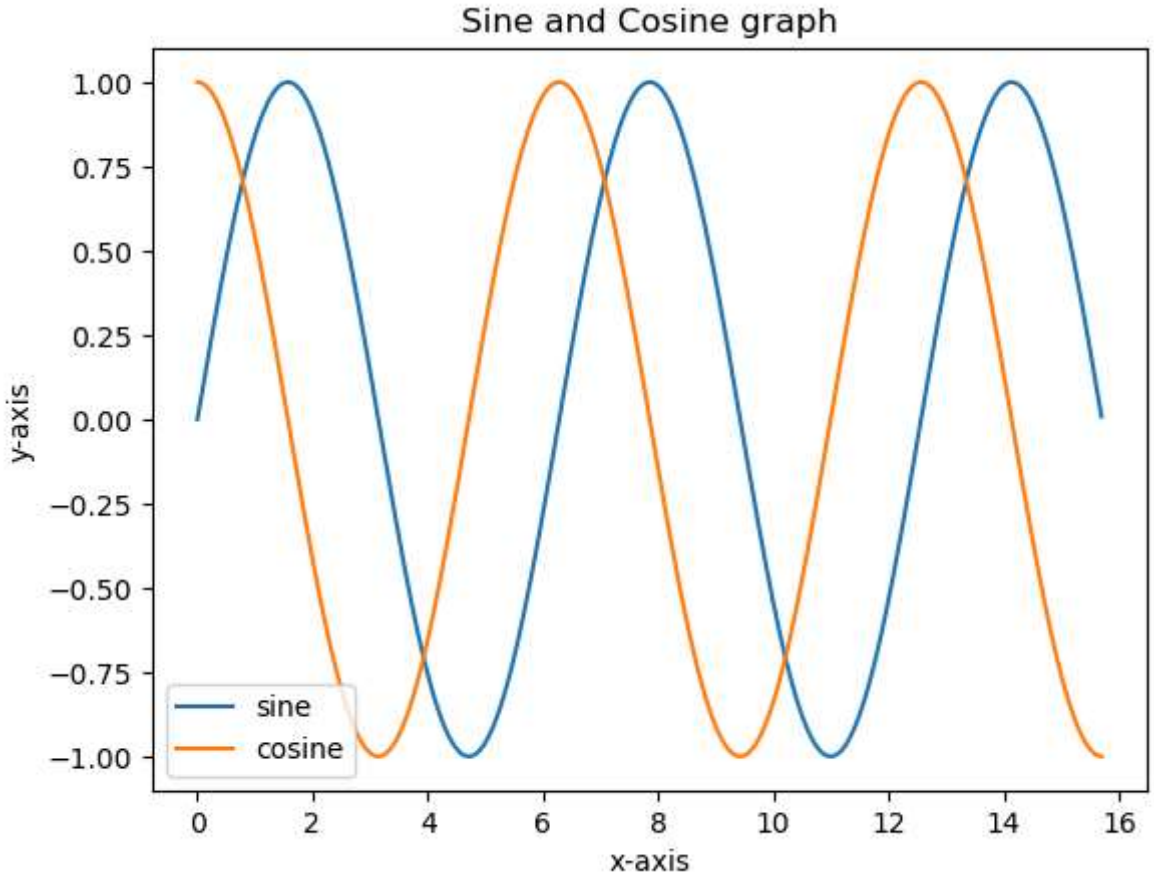
In [53]:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt


x = np.arange(0, 3 * np.pi, 0.1)
y_sin = np.sin(x)
y_cos = np.cos(x)

# Plot the points using matplotlib
plt.plot(x, y_sin)
plt.plot(x, y_cos)
plt.xlabel('x axis label')
plt.ylabel('y axis label')
plt.title('Sine and Cosine')
plt.legend(['Sine', 'Cosine'])
plt.show()
```



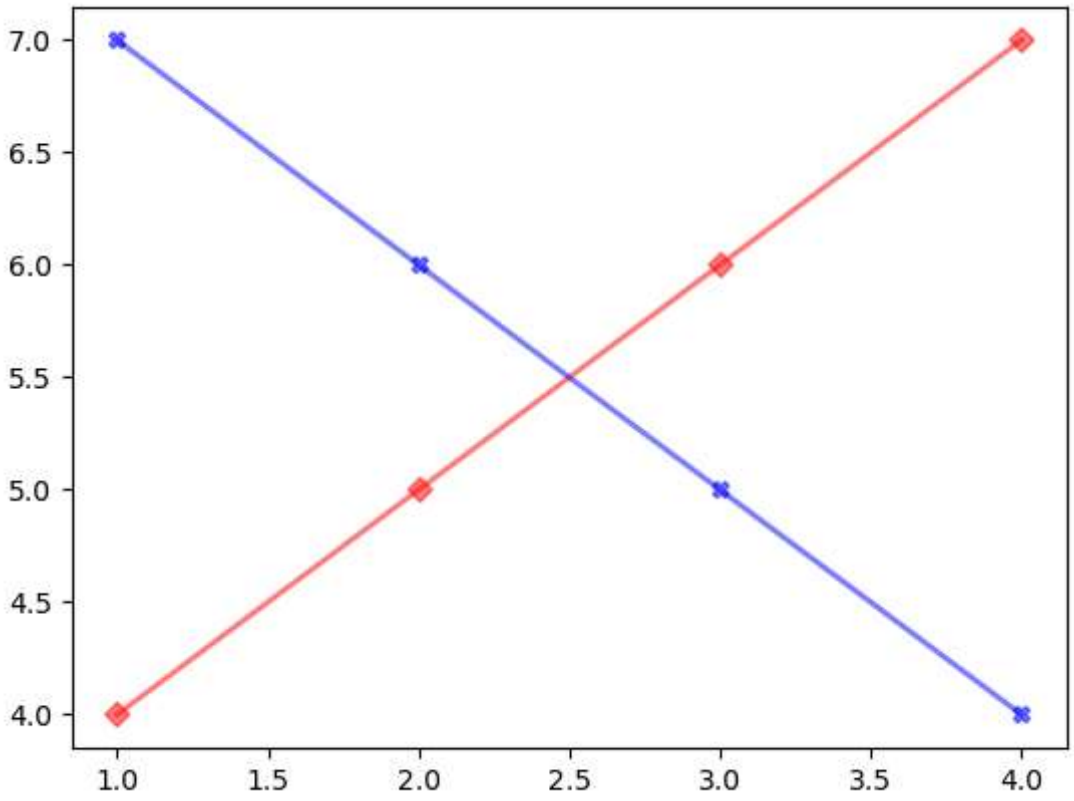
In [77]:

```
import math
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

array= np.arange(0, 5*np.pi, 0.01)
x_sin= np.sin(array)
y_cos= np.cos(array)


plt.plot(array,x_sin)
plt.plot(array,y_cos)
plt.xlabel('x-axis')
plt.ylabel('y-axis')
plt.title('Sine and Cosine graph')
plt.legend(["sine","cosine"])
plt.show()
```



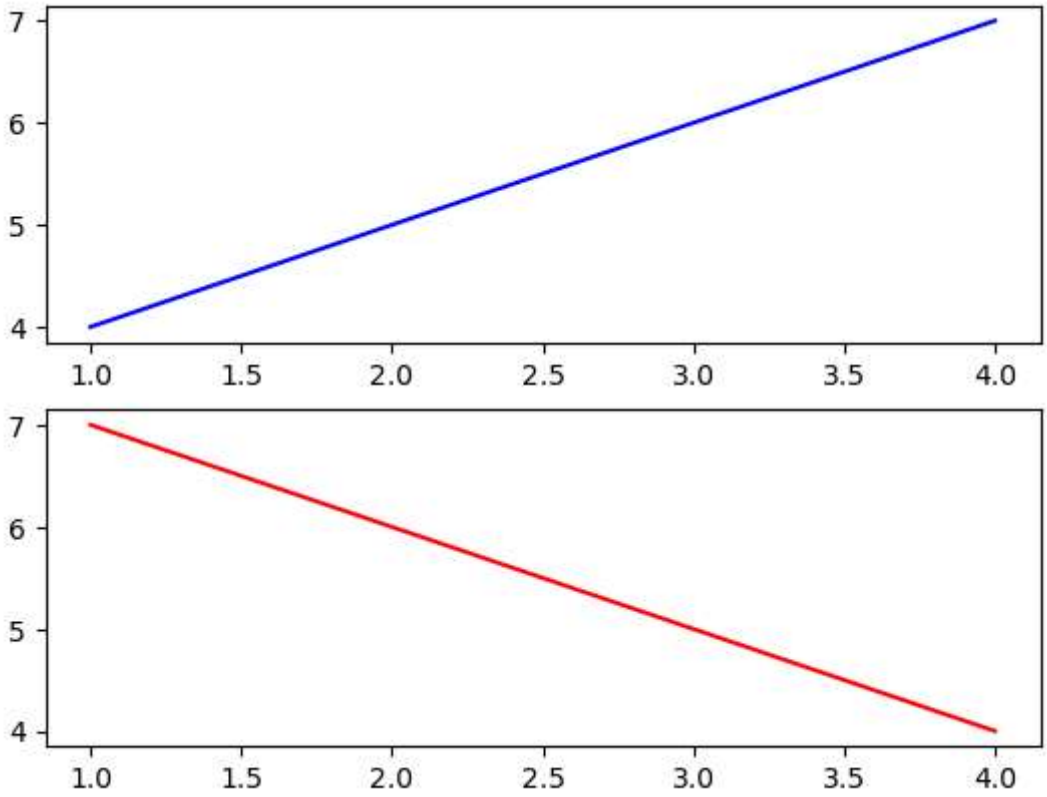
In [75]:

```
(x1_vals, y1_vals) = ([1,2,3,4], [4,5,6,7])
(x2_vals, y2_vals) = ([1,2,3,4], [7,6,5,4] )


line1 = plt.plot(x1_vals, y1_vals)
line2 = plt.plot(x2_vals, y2_vals)

plt.setp(line1, color='r', linewidth=2.0, marker='D', alpha=0.5)
plt.setp(line2, color='b', linewidth=2.0, marker='X', alpha=0.5)

plt.show()
```

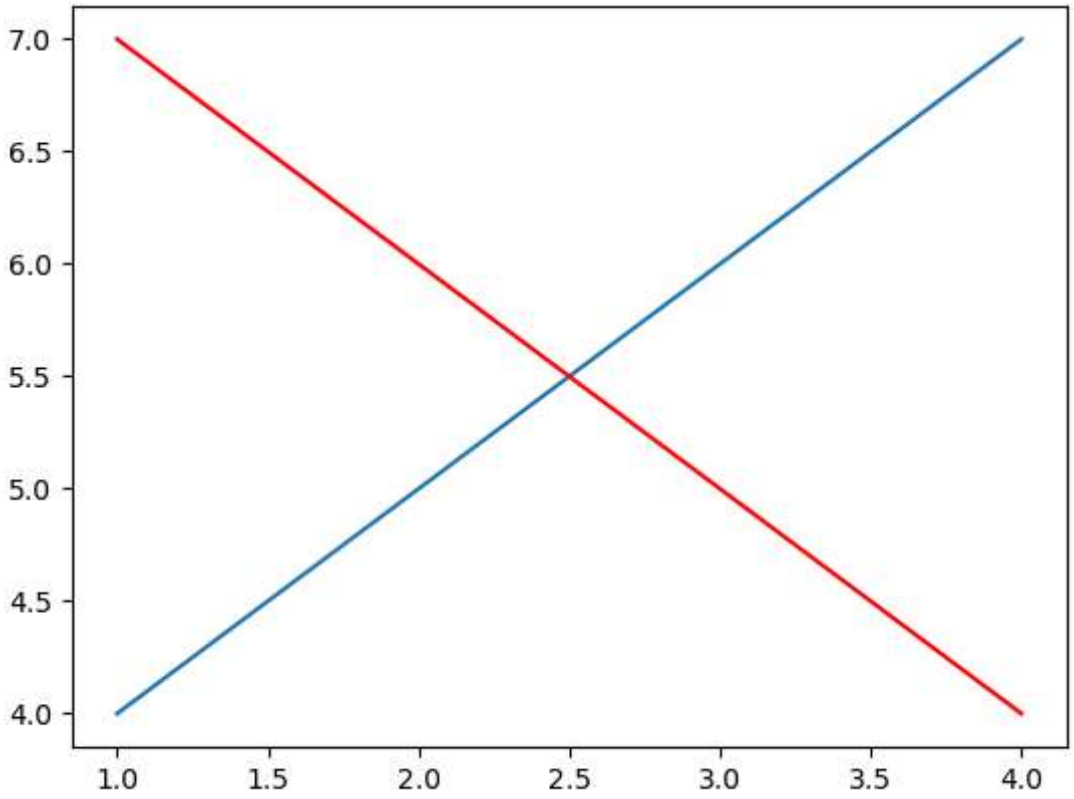


In [89]:

```
(x1_vals, y1_vals) = ([1,2,3,4], [4,5,6,7])
(x2_vals, y2_vals) = ([1,2,3,4], [7,6,5,4] )

plt.subplot(211)
plt.plot(x1_vals,y1_vals, color="b")

plt.subplot(212)
plt.plot(x2_vals, y2_vals ,color="r") # the 'r-' colors the line red
plt.show()
```



In [88]:
```
(x1_vals, y1_vals) = ([1,2,3,4], [4,5,6,7])
(x2_vals, y2_vals) = ([1,2,3,4], [7,6,5,4] )


plt.plot(x1_vals,y1_vals)

plt.plot(x2_vals, y2_vals ,color="r") # the 'r-' colors the line red
plt.show()
```



In [90]:
```
import matplotlib.pyplot as plt
import pandas as pd


data=pd.read_csv("nba.csv")
data

```

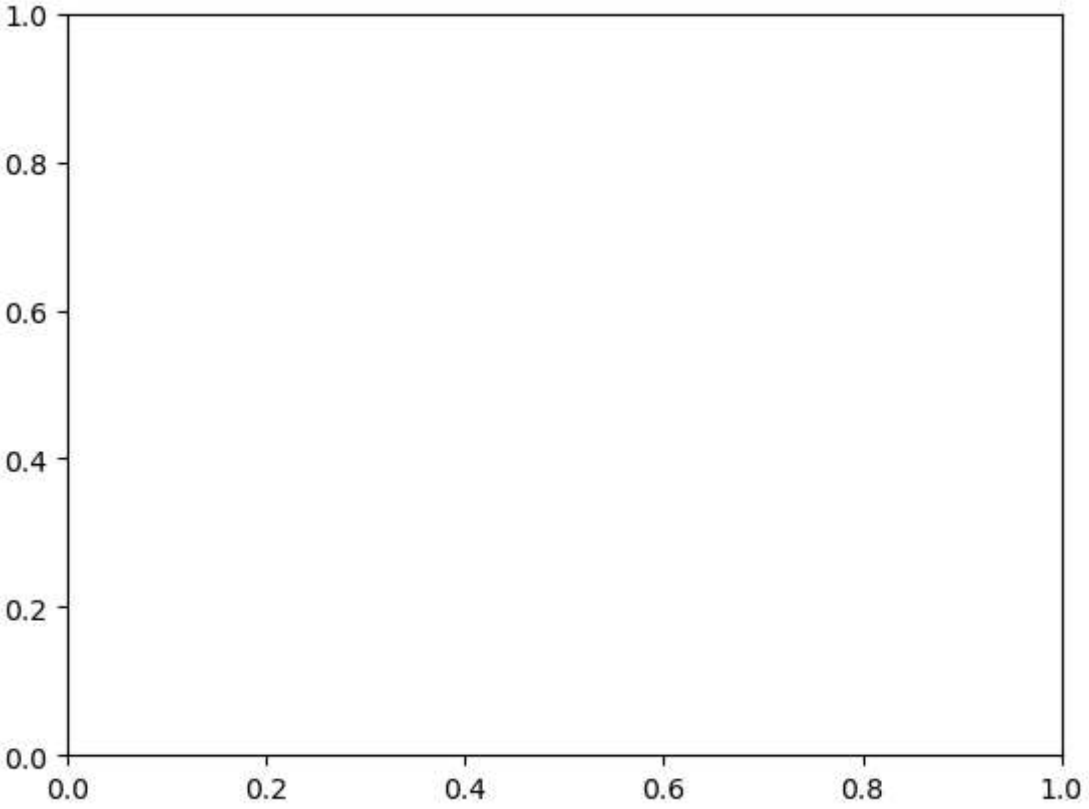
Out[90]:

	Name	Team	Number	Position	Age	Height	Weight	College	Salary
0	Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	Texas	7730337.0
1	Jae Crowder	Boston Celtics	99.0	SF	25.0	6-6	235.0	Marquette	6796117.0
2	John Holland	Boston Celtics	30.0	SG	27.0	6-5	205.0	Boston University	NaN
3	R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	Georgia State	1148640.0
4	Jonas Jerebko	Boston Celtics	8.0	PF	29.0	6-10	231.0	NaN	5000000.0
...	...	...	...	...	...	...	...	...	...
453	Shelvin Mack	Utah Jazz	8.0	PG	26.0	6-3	203.0	Butler	2433333.0
454	Raul Neto	Utah Jazz	25.0	PG	24.0	6-1	179.0	NaN	900000.0
455	Tibor Pleiss	Utah Jazz	21.0	C	26.0	7-3	256.0	NaN	2900000.0
456	Jeff Withey	Utah Jazz	24.0	C	26.0	7-0	231.0	Kansas	947276.0
457	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

458 rows × 9 columns

In [92]:
```
1 plt.plot(data)
2 plt.show()
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[92], line 1
----> 1 plt.plot(data, x="Number", y="Weight")
      2 plt.show()

File ~\anaconda3\Lib\site-packages\matplotlib\pyplot.py:2812, in plot(scale
x, scaley, data, *args, **kwargs)
   2810 @_copy_docstring_and_deprecators(Axes.plot)
   2811 def plot(*args, scalex=True, scaley=True, data=None, **kwargs):
-> 2812     return gca().plot(
   2813         *args, scalex=scalex, scaley=scaley,
   2814         **({"data": data} if data is not None else {}), **kwargs)

File ~\anaconda3\Lib\site-packages\matplotlib\axes\_axes.py:1688, in Axes.pl
ot(self, scalex, scaley, data, *args, **kwargs)
   1445 """
   1446 Plot y versus x as lines and/or markers.
   1447
   (...)
   1685 (``'green'``) or hex strings (``'#008000'``).
   1686 """
   1687 kwargs = cbook.normalize_kwargs(kwargs, mlines.Line2D)
-> 1688 lines = [*self._get_lines(*args, data=data, **kwargs)]
   1689 for line in lines:
   1690     self.add_line(line)

File ~\anaconda3\Lib\site-packages\matplotlib\axes\_base.py:246, in _process
_plot_var_args.__call__(self, data, *args, **kwargs)
    244 for pos_only in "xy":
    245     if pos_only in kwargs:
--> 246         raise _api.kwarg_error(self.command, pos_only)
    248 if not args:
    249     return

TypeError: plot() got an unexpected keyword argument 'x'
```



In [ ]:
```
1
```