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Practicle-7

- To demonstrate scatter plot for correlated and uncorrelated data

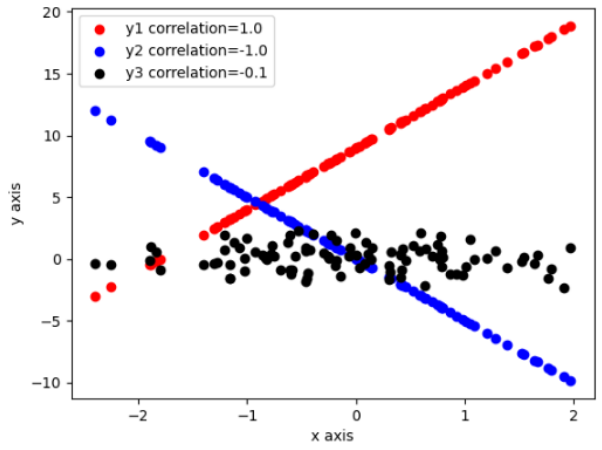
to demonstrate scatter plot for correlated and uncorrelated data

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

In [2]:
```
x=np.random.randn(100)
y1=x*5+9
y2=-5*x
y3=np.random.randn(100)
plt.xlabel('x axis')
plt.ylabel('y axis')
plt.scatter(x,y1,color='r',label=f'y1 correlation={np.round(np.corrcoef(x,y1)[0,1],2)}')

plt.scatter(x,y2,color='b',label=f'y2 correlation={np.round(np.corrcoef(x,y2)[0,1],2)}')

plt.scatter(x,y3,color='k',label=f'y3 correlation={np.round(np.corrcoef(x,y3)[0,1],2)}')
plt.legend()
plt.show()
```



In [ ]:

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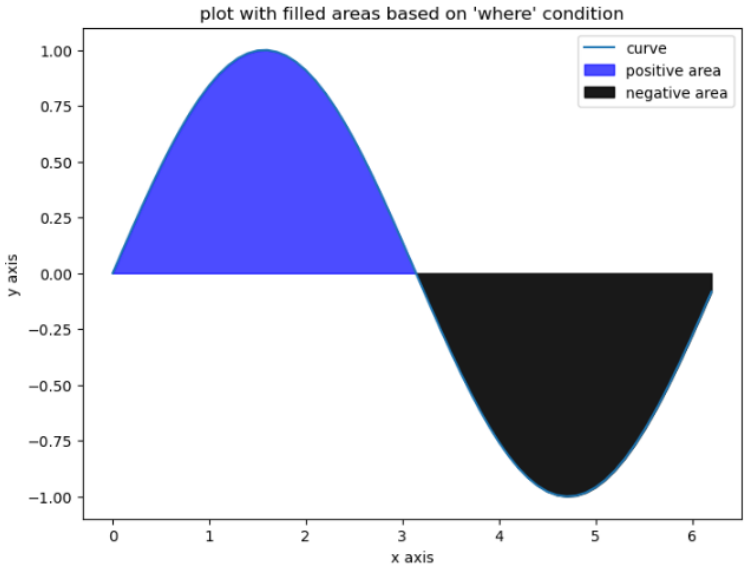
In [3]:
```
x=np.arange(0,2*np.pi,0.1)
y_sin=np.sin(x)
plt.figure(figsize=(8,6))
plt.xlabel('x axis')
plt.ylabel('y axis')
plt.title("plot with filled areas based on 'where' condition")
plt.plot(x,y_sin,label='curve')
plt.fill_between(x,y_sin,where=(y_sin>=0),interpolate=True,color='b',alpha=0.7,label="positive area")
plt.fill_between(x,y_sin,where=(y_sin<0),interpolate=True,color='k',alpha=0.9,label="negative area")
plt.legend()
plt.show()
```



In [ ]: