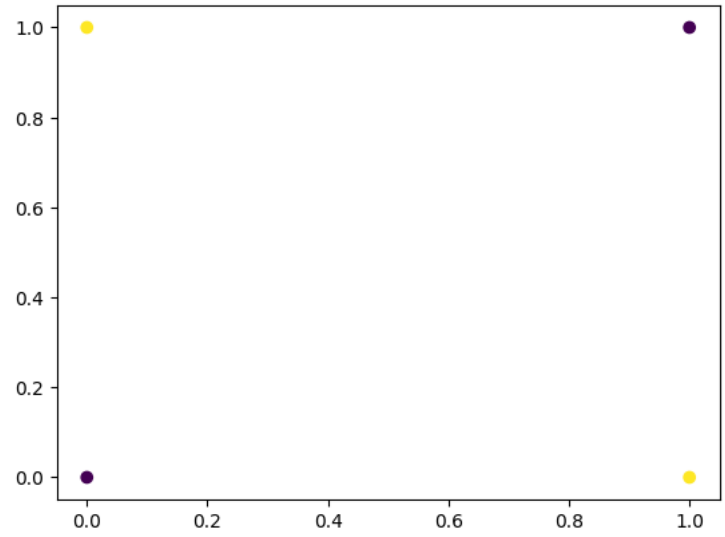
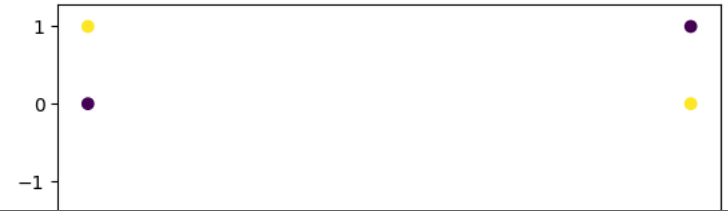
```
import numpy as np

from matplotlib import pyplot as plt

#XOR Truth Table
x1=np.array([[0,0],[0,1],[1,0],[1,1]])
y1=np.array([0,1,1,0])

plt.scatter(x=x1[:,0],y=x1[:,1],c=y1)
plt.show()

n_samples=x1.shape[0]
n_features=x1.shape[1]

w=np.random.uniform(0,1,size=n_features)
b=np.random.uniform(0,1,1)

n_epoch=int(input("Enter the number of epochs :- "))

lr=0.01

for e in range(n_epoch):
  for s in range(n_samples):
    net=np.dot(x1[s,:],w)+b
    if net>=0:
      a=1
    else:
      a=0
    error=y1[s]-a
    w=w+(lr*error*x1[s,:])
    b=b+(lr*error)

m=-w[0]/w[1]
c=-b/w[1]

def plot_decision_boundary(x1):
  for x in np.linspace(np.min(x1[:,0]),np.max(x1[:,0])):
    y=m*x+c
    plt.plot(x,y,linestyle="-",color='k',marker=".")
  plt.scatter(x1[:,0],x1[:,1],c=y1)
  plt.show()

plot_decision_boundary(x1)
```




```
Enter the number of epochs :- 2
```



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