In [1]:

```
x=[5,3,7,10]
y=[1,2,8,4]
```

In [2]:

```
import numpy as np
xBar=np.mean(x)
yBar=np.mean(y)
n=len(x)
```

In [3]:

```
print(xBar)
print(yBar)
print(n)
```

```
6.25
3.75
4
```

In [4]:

```
xBarYBar = 0
for i in range(len(x)):
    xBarYBar=xBarYBar+(x[i]*y[i])
```

In [5]:

```
xBarSquare = 0
for i in range(len(x)):
    xBarSquare=xBarSquare+(x[i]*x[i])
```

In [6]:

```
print(xBarYBar)
print(xBarSquare)
```

```
107
183
```

In [7]:

```
m=(xBarYBar-(n*xBar*yBar))/(xBarSquare-(n*xBar*xBar))
c=yBar-xBar*m
```

In [8]:

```
print(m)
print(c)
```

```
0.495327102804
0.654205607477
```

In [14]:

```
import matplotlib.pyplot as plt
plt.scatter(x, y, color = "m",
               marker = "o", s = 30)
yPredicted=[]

for i in range(len(x)):
    yPredicted.append(m*x[i] + c)
plt.plot(x, yPredicted, color = "g")
plt.xlabel('x')
plt.ylabel('y')
plt.show()
```