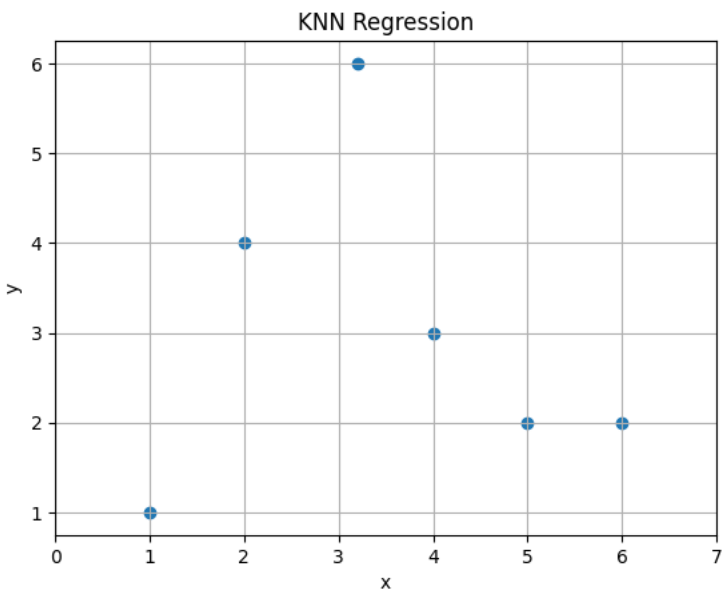
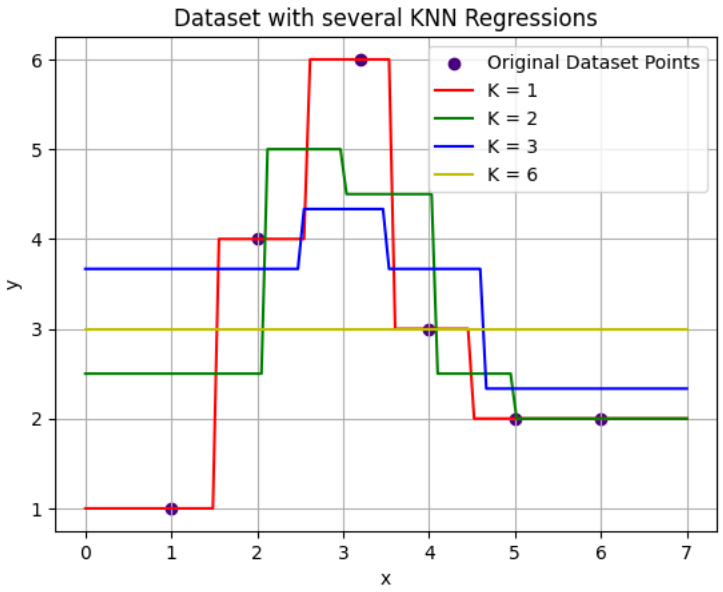
```
from matplotlib import pyplot as plt
from sklearn.neighbors import KNeighborsRegressor
import numpy as np


x = [[1], [2], [3.2], [4], [5], [6]]
y = [1, 4, 6, 3, 2, 2]
plt.scatter(x, y)
plt.grid()
plt.title("KNN Regression")
plt.xlabel("x")
plt.ylabel("y")
plt.xlim([0, 7])
plt.show()
```



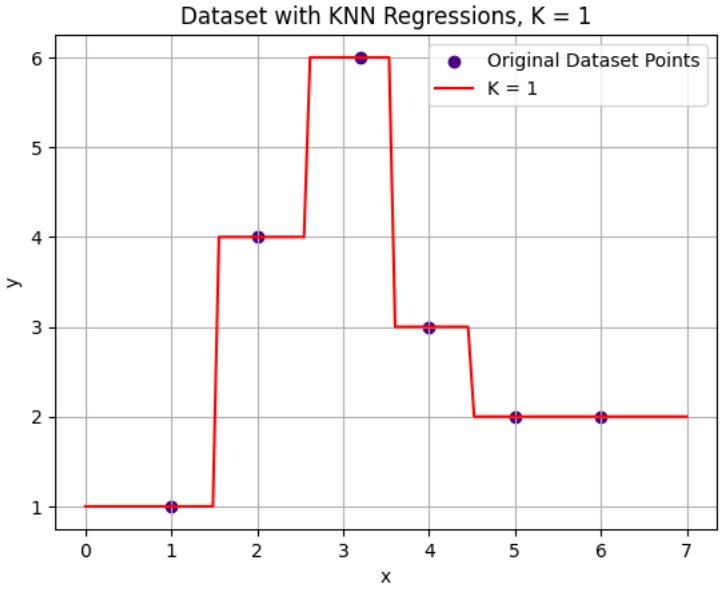

```
k1 = KNeighborsRegressor(n_neighbors = 1)
k1.fit(x, y)
k2 = KNeighborsRegressor(n_neighbors = 2)
k2.fit(x, y)
k3 = KNeighborsRegressor(n_neighbors = 3)
k3.fit(x, y)
k6 = KNeighborsRegressor(n_neighbors =6)
k6.fit(x, y)
```

```
▾        KNeighborsRegressor
KNeighborsRegressor(n_neighbors=6)
```

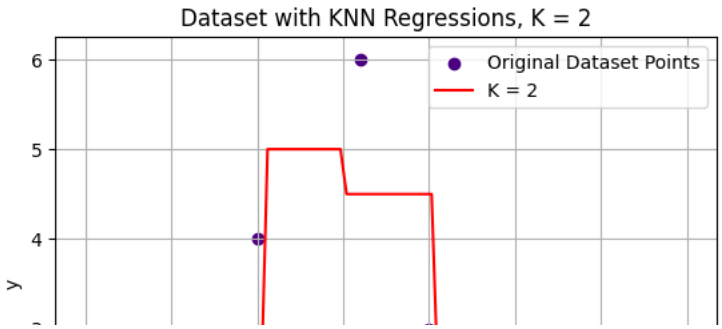
```
pred_y = np.linspace(0, 7, 100)
k1list = []
k2list = []
k3list = []
k6list = []

for i in range (len(pred_y)):
  k1list.append(k1.predict([[pred_y[i]]]))
  k2list.append(k2.predict([[pred_y[i]]]))
  k3list.append(k3.predict([[pred_y[i]]]))
  k6list.append(k6.predict([[pred_y[i]]]))


plt.title("Dataset with several KNN Regressions")
plt.xlabel("x")
plt.ylabel("y")
plt.scatter(x, y, color = "indigo", label = "Original Dataset Points")
plt.plot(pred_y, k1list, label = "K = 1", color = "r")
plt.plot(pred_y, k2list, label = "K = 2", color = "g")
plt.plot(pred_y, k3list, label = "K = 3", color = "b")
plt.plot(pred_y, k6list, label = "K = 6", color = "y")
plt.legend()
plt.grid()
plt.show()
```



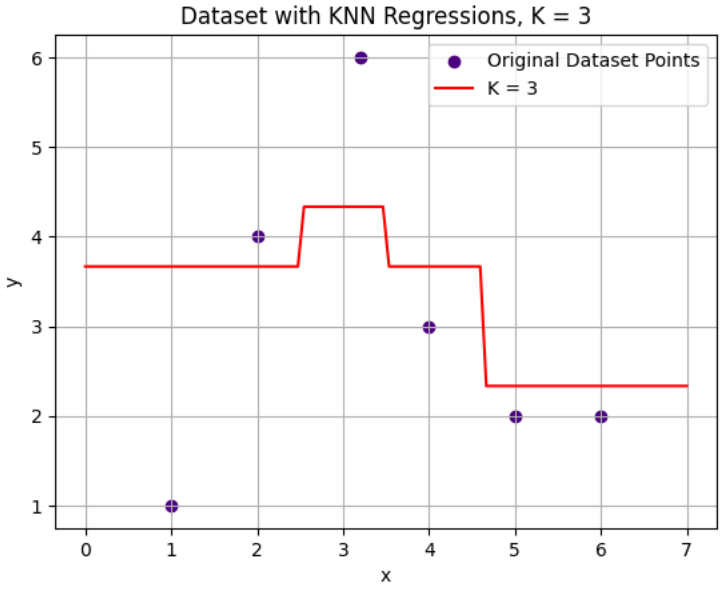

```
plt.title("Dataset with KNN Regressions, K = 1")
plt.xlabel("x")
plt.ylabel("y")
plt.scatter(x, y, color = "indigo", label = "Original Dataset Points")
plt.plot(pred_y, k1list, label = "K = 1", color = "r")
plt.legend()
plt.grid()
plt.show()
```




```
plt.title("Dataset with KNN Regressions, K = 2")
plt.xlabel("x")
plt.ylabel("y")
plt.scatter(x, y, color = "indigo", label = "Original Dataset Points")
plt.plot(pred_y, k2list, label = "K = 2", color = "r")
plt.legend()
plt.grid()
plt.show()
```




```
plt.title("Dataset with KNN Regressions, K = 3")
plt.xlabel("x")
plt.ylabel("y")
plt.scatter(x, y, color = "indigo", label = "Original Dataset Points")
plt.plot(pred_y, k3list, label = "K = 3", color = "r")
plt.legend()
plt.grid()
plt.show()
```




```
plt.title("Dataset with KNN Regressions, K = 6")
plt.xlabel("x")
plt.ylabel("y")
plt.scatter(x, y, color = "indigo", label = "Original Dataset Points")
plt.plot(pred_y, k6list, label = "K = 6", color = "r")
plt.legend()
plt.grid()
plt.show()
```