

```
import math, random
```

```
data = [  
    ([4,1200,1],0), ([6,1500,2],0), ([8,1800,2],1),  
    ([12,2200,3],1), ([16,3000,4],1), ([3,1000,1],0)  
]
```

```
random.shuffle(data)
```

```
train, test = data[:4], data[4:]
```

```
def knn(train, test, k=3):  
    pred=[]  
    for x,y in test:  
        d=sorted(train, key=lambda t: math.dist(t[0],x))  
        pred.append(round(sum(c for _,c in d[:k])/k))  
    return pred
```

```
def accuracy(p,a):  
    return sum(i==j for i,j in zip(p,a))/len(a)
```

```
y_test=[c for _,c in test]
```

```
pred=knn(train,test)
```

```
print("Predicted:",pred)
```

```
print("Actual :",y_test)
```

```
print("Accuracy :",accuracy(pred,y_test))
```

## OUTPUT:

```
Python 3.13.9 (tags/v3.13.9:8183fa5, Oct 14 2025, 14:09:13) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.

>>>
===== RESTART: C:/Users/prast/OneDrive/Desktop/ML LAB/EXP 17.py =====
Predicted: [1, 1]
Actual    : [0, 0]
Accuracy  : 0.0
>>> |
```