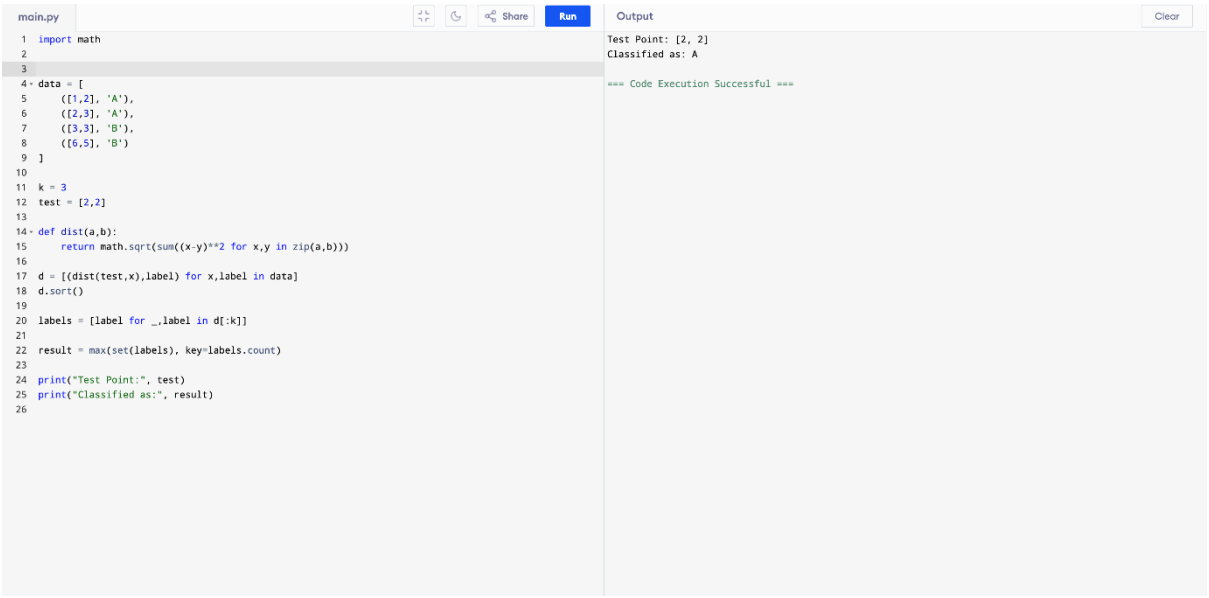
## EX 5

**CODING:**

```
import math

data = [
   ([1,2], 'A'),
   ([2,3], 'A'),
   ([3,3], 'B'),
   ([6,5], 'B')
]

k = 3
test = [2,2]

def dist(a,b):
   return math.sqrt(sum((x-y)**2 for x,y in zip(a,b)))

d = [(dist(test,x),label) for x,label in data]
d.sort()

labels = [label for _,label in d[:k]]

result = max(set(labels), key=labels.count)

print("Test Point:", test)
print("Classified as:", result)
```

OUTPUT:


main.py
Share
Run
Output
Clear
import math
data = [
([1,2], 'A'),
([2,3], 'A'),
([3,3], 'B'),
([6,5], 'B')
]
k = 3
test = [2,2]
def dist(a,b):
return math.sqrt(sum((x-y)**2 for x,y in zip(a,b)))
d = [(dist(test,x),label) for x,label in data]
d.sort()
labels = [label for _,label in d[:k]]
result = max(set(labels), key=labels.count)
print("Test Point:", test)
print("Classified as:", result)
Test Point: [2, 2]
Classified as: A
=== Code Execution Successful ===