

# Python Assignment - 4

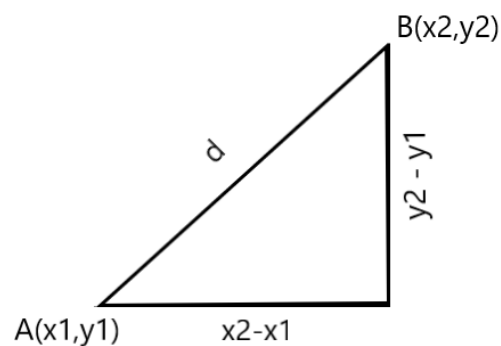
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## **Aim:**

Create module for performing mathematical function and import it to calculate Euclidean distance. Show exception handling to handle the runtime mistake done

## **Theory:**

The Euclidean distance between any two points, whether the points are 2-dimensional or 3-dimensional space, is used to measure the length of a segment connecting the two points. It can also be simply referred to as representing the distance between two points.



## **The formula used :**

The formula used for computing Euclidean distance is .

If the points A(x1, y1) and B(x2, y2) are in 2-dimensional space, then the Euclidean distance between them is

$$|AB| = \sqrt{(x2-x1)^2 + (y2-y1)^2}$$

If the points A(x1, y1, z1) and B(x2, y2, z2) are in 3-dimensional space, then the Euclidean distance between them is

$$|AB| = \sqrt{((x_2-x_1)^2 + (y_2-y_1)^2 + (z_2-z_1)^2)}$$

## Code:

### assign.py

```
import euclidean

print("Enter the first point A")
x1, y1 = map(int, input().split())

print("Enter the second point B")
x2, y2 = map(int, input().split())

from euclidean import dist

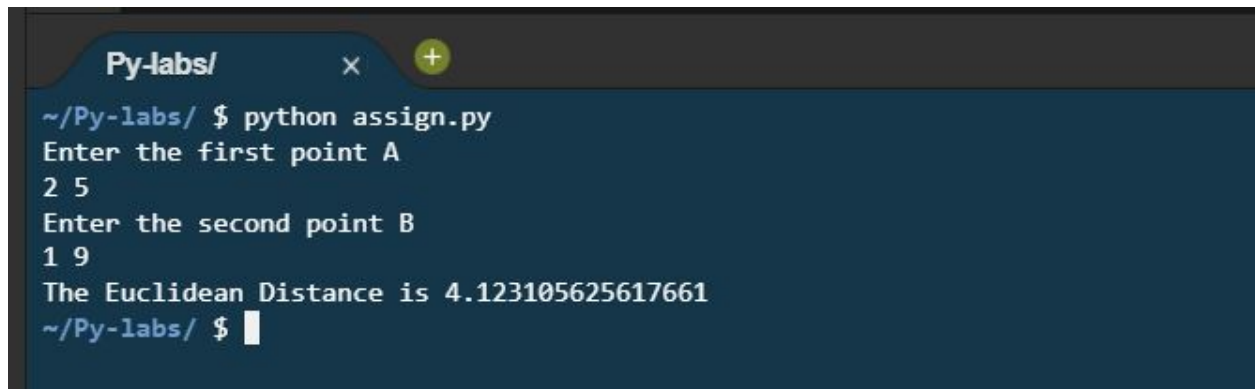
ans = dist(x2,x1,y2,y1)

print("The Euclidean Distance is " + str(ans))
```

### Euclidean.py (module)

```
def dist(x2,x1,y2,y1):
    y = (x2-x1)**2
    x = (y2-y1)**2
    return (x+y)**0.5
```

## Output:



```
Py-labs/ x +
~/Py-labs/ $ python assign.py
Enter the first point A
2 5
Enter the second point B
1 9
The Euclidean Distance is 4.123105625617661
~/Py-labs/ $
```