In [42]:
```
import numpy as np
from numpy.linalg import norm
from scipy.spatial.distance import cdist
```

In [57]:
```
A = np.array([4, -2])
B = np.array([-3, 5])
C = A - B
print("Array C =", C)
print("\nLength of C =", len(C))
print("\nEulidean Norm of vector A =", norm(A))
print("\nEulidean Norm of vector B =", norm(B))
print("\nThe metric, ||A-B||, =", norm(A-B, ord=2))
print("\nThe dot product, A.B, =", np.dot(A, B))
print("\nThe cosine of theta between A and B =", np.dot(A, B) / norm(A) / norm(B))
print("\nThe angle, theta, between A and B =", np.arccos(np.dot(A, B) / norm(A) / no
```

```
Array C = [ 7 -7]

Length of C = 2

Eulidean Norm of vector A = 4.47213595499958

Eulidean Norm of vector B = 5.830951894845301

The metric, ||A-B||, = 9.899494936611665

The dot product, A.B, = -22

The cosine of theta between A and B = -0.8436614877321074

The angle, theta, between A and B = 2.5748634360662868
```

In [ ]: