**Experiment No.: 10**

**Aim:** Write a program to implement various primitive operations on fuzzy sets with Dynamic Components.

A = dict()

B = dict()

Y = dict()

Z = dict()

A = {"A": 0.2, "B": 0.3, "C": 0.6, "D": 0.6}

B = {"A": 0.9, "B": 0.9, "C": 0.4, "D": 0.5}

print('The 1st Fuzzy Set is :', A)

print('The 2nd Fuzzy Set is :', B)

#union

for A\_key, B\_key in zip(A, B):

if A[A\_key] > B[B\_key]:

Y[A\_key] = A[A\_key]

else:

Y[B\_key] = B[B\_key]

print('\nFuzzy Set Union is :', Y)

#intersection

for A\_key, B\_key in zip(A, B):

if A[A\_key] < B[B\_key]:

Y[A\_key] = A[A\_key]

else:

Y[B\_key] = B[B\_key]

print('\nFuzzy Set Intersection is :', Y)

# Complement

for A\_key in A:

Y[A\_key] = round(1 - A[A\_key], 2)

Z[A\_key] = round(1 - B[A\_key], 2)

print('\nFuzzy Set Complement of A :', Y)

print('\nFuzzy Set Complement of B :', Z)

# Difference

for A\_key, B\_key in zip(A, B):

if A[A\_key] < (1 - B[B\_key]):

Y[A\_key] = round(A[A\_key], 2)

else:

Y[B\_key] = round(1-B[B\_key], 2)

print('\nFuzzy Set Difference is :', Y)

**Output:**

