

ALGORITHM:

Set operations

Step 1: start

Step 2: Declare the necessary variable

Step 3: Read the choice from the user to perform set operation.

Step 4: If the user choose to perform union.

Step 4.1: Read the cardinality of 2 sets.

Step 4.2: check if $m_1 = n$ then print Cannot perform union.

Step 4.3: Else read the elements in both the sets

Step 4.4: Repeat the step 4.5 to 4.7 until $i \leq m$

Step 4.5: $c[i] = A[i] \cup B[i]$

Step 4.6: print $c[i]$

Step 4.7: Increment i by 1

Step 5: Read the choice from the user to perform Intersection.

Step 5.1: Read the cardinality of 2 sets.

Step 5.2: check if $m_1 = n$ then print Cannot perform Intersection.

Step 5.3: Else read the elements in both the sets.

Step 5.4 : Repeat the step 5.5 to 5.7 until $i \leq n$

Step 5.5 : $c[i] = A[i] \text{ XOR } B[i]$

Step 5.6 : print $c[i]$

Step 5.7 : Increment i by 1

Step 6 : If the user choose to perform set difference separation.

Step 6.1 : Read the cardinality of 2 sets.

Step 6.2 : check if $m=0$ then print cannot perform set difference operation

Step 6.3 : Else read the elements in both sets

Step 6.4 : Repeat the step 6.5 to 6.8 until $i \leq n$

Step 6.5 : check if $A[i] == 0$ then $c[i] = 0$

Step 6.6 : Else if $B[i] == 1$ then $c[i] = 0$

Step 6.7 : Else $c[i] = 1$

Step 6.8 : Increment i by 1

Step 7 : Repeat the step 7.1 and 7.2 until $i \leq n$

Step 7.1 : print $c[i]$

Step 7.2 : Increment i by 1.