**Objective**

At this checkpoint you are asked to write an algorithm that fulfills the following description:

Description:

* Given two sets of elements, find the sum of all distinct elements from the set. In other words, find the sum of all elements which are present in either of the given set.
* Example:
* Set 1 : [3, 1, 7, 9], Set 2: [2, 4, 1, 9, 3]
* Output: 13 (distinct elements 4, 7, 2 )
* Give two Solutions to this problem, using different types of data structures each time.
* Now, given two sets of integers, write also two algorithms to print the sum of overlapping elements in two sets. The elements in each set are unique or there are no duplicates within a set.

Solution:

ALGORITHM array\_struct\_exp

VAR

Set1 : array of integer []:=[3, 1, 7, 9];

Set2 : array of integer []:= [2, 4, 1, 9, 3];

i,j,sum : integer;

exist : Boolean;

sum := 0;

BEGIN

FOR i FROM 0 TO set1.length-1 STEP 1 DO // step1 è i++

Exist := false;

FOR j FROM 0 TO set2.length-1 STEP 1 DO

If set1[i] == set2[j] then

Exist := true;

Break;

End\_ if

END\_FOR

If exist == false then

Sum := sum + set1[i];

End\_ if

END\_FOR

FOR j FROM 0 TO set2.length-1 STEP 1 DO // step1 è i++

Exist := false;

FOR i FROM 0 TO set1.length-1 STEP 1 DO

If set2[j] == set1[i] then

Exist := true;

Break;

End\_ if

END\_FOR

If exist == false then

Sum := sum + set2[j];

End \_if

END\_FOR

Write(sum);

END

Exemple2: Htable

ALGORITHM hash

VAR

// declaring hash table

htab1: HASH\_TABLE<INTEGER,INTEGER>;

htab2 : HASH\_TABLE<INTEGER,INTEGER>;

i ,j,sum : integer;

sum := 0;

BEGIN

htab1.insert(0,3);

htab1.insert(1,4);

htab1.insert(2,7);

htab1.insert(3,9);

htab2.insert(0,4);

htab2.insert(1,6);

htab2.insert(2,0);

htab2.insert(3,2);

htab2.insert(4,9);

For i from 0 to htab1.length-1 step1 do

For j from 0 to htab2.length-1 step1 do

if htab1.get(i)==htab2.get(j) then

sum := sum + htab1.get(i);

end\_ if

End\_ for

End\_ for

Write (sum\*2);

END