CSE 331 Computer Organization — Nevra Gürses

Project 1 — 161044071

Functions and their tasks in my Project:

readConsol: This function provides to take inputs for sets from console. First input recording in setUnion (X) and other sets are initialized respectively according to user inputs.

Output of this function :

```
Welcome !
NOTE: First set will be union set !
Enter the set number: 4
Enter the element number in set: 4
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element number in set: 2
Enter the element: 1
Enter the element: 2
Enter the element number in set: 3
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element number in set: 2
Enter the element: 3
Enter the element: 4
```

readFile : This function provides to take inputs for sets from file. I write this function but in my operations in project I use consol inputs because file is reading as string and I could not convert it integer. Output of this function:

```
X = { 1,2,3,4,5,6,7,8,9 }

S1= { 1,2,3 }

S2= { 4,5,7 }

S3= { 1,2,3,4,5}
-- program is finished running (dropped off bottom) --
```

printSetOnScreen: This function provides to print given set on screen.I use this function for every set printing on screen. Takes 2 parameters that are a0 is adress of set,

a1 element number of set.

searching: This function search given element in set. This function takes 3 parameters that are a0 is adress of set, a1 is element number of set , a2 is searching element. If given element is in set, v0 register return 1, if not v0 register return -1.

```
Welcome !
NOTE: First set will be union set !
Enter the set number: 3
Enter the element number in set: 3
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element number in set: 2
Enter the element: 2
Enter the element: 1
Enter the element number in set: 1
Enter the element: 3
Searching given element in given list ...
1
```

This example shows whether 1 is in set1(that's elements are 2,1) or not.The result is 1 so it is in list.

intersection: This function creates intersection of given 2 set.It takes 4 parameters that are , a0 is adress of first set , a1 is element number of first set, a2 is element number of second set,a3 is adress of second set.In this function I used search function.This function returns created intersection set at v0 register and created intersection set element number in v1 register.

An output of this function :

```
Welcome !
NOTE: First set will be union set !
Enter the set number: 4
Enter the element number in set: 5
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element: 5
Enter the element number in set: 3
Enter the element: 1
Enter the element: 2
Enter the element: 5
Enter the element number in set: 2
Enter the element: 4
Enter the element: 5
Enter the element number in set: 4
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element: 4
Intersection of given union set  and given subset :
1
2
3
4
```

This example shows intersection of union set(X) and set 3 (elements of it 1,2,3,4) .

difference: This function creates difference of given 2 set. It takes 4 parameters that are , a0 is adress of first set , a1 is element number of first set, a2 is element number of second set,a3 is adress of second set.In this function I used search function.This function returns created difference set at v0 register and created difference set element number in v1 register.

```
Welcome !
NOTE: First set will be union set !
Enter the set number: 4
Enter the element number in set: 4
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element number in set: 3
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element number in set: 1
Enter the element: 2
Enter the element number in set: 2
Enter the element: 2
Enter the element: 4
Difference elements of given union set  from given subset :
1
3
```

This example shows difference of union set(X) from set 3 (elements of it 2,4) .

union: This function finds union set of given 2 set. It takes 4 parameters that are , a0 is adress of first set , a1 is element number of first set, a2 is element number of second set,a3 is adress of second set.In this function I used search function. This function returns created union set at v0 register and created union set element number in v1 register.

An output of this function :

```
Welcome !
NOTE: First set will be union set !
Enter the set number: 4
Enter the element number in set: 4
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element number in set: 2
Enter the element: 1
Enter the element: 2
Enter the element number in set: 3
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element number in set: 2
Enter the element: 3
Enter the element: 4
Union of given 2 set :
1
2
3
4
```

This example shows union of union set1(elements of it 1,2) and set 3 (elements of it 3,4) .

printNewline:This function provides printing new line on screen.

exit: This function provide close all program.

findMaxIntersect: This function for finding max intersect element set with union set(X).

I try to write this function.But it does not work truely.It is working true only that case:

```
Welcome !
NOTE: First set will be union set !
Enter the set number: 4
Enter the element number in set: 5
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element: 4
Enter the element: 5
Enter the element number in set: 3
Enter the element: 4
Enter the element: 1
Enter the element: 2
Enter the element number in set: 2
Enter the element: 1
Enter the element: 2
Enter the element number in set: 4
Enter the element: 1
Enter the element: 2
Enter the element: 3
Enter the element: 4



1
2
3
4
```