DISCRETE STRUCTURE AND LOGIC LAB

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ASSIGNMENT LAB 2

TOPIC = Intersection of two array

```c
#include<stdio.h>

int removerepeated(int size,int a[]);

void sort(int size,int a[]);

main(){

  int i,size1,size2,size,j=0,k,intersectionsize;

  printf("Enter size of an array1\n");

  scanf("%d",&size1);

  printf("Enter size of an array2\n");

  scanf("%d",&size2);

  int a[size1],b[size2],uni[size1+size2];

  if(size1<size2){

    intersectionsize=size1;

  }else if(size1>size2){

    intersectionsize=size2;

  }else{

    intersectionsize=size1;

  }

  int intersection[intersectionsize];

  printf("Enter numbers for array 1\n");

  for(i=0;i<size1;i++){

    scanf("%d",&a[i]);

  }

  printf("Enter numbers for array 2\n");
```

```c
    for(i=0;i<size2;i++){
      scanf("%d",&b[i]);
    }
    //Intersection starts
    k=0;
    for(i=0;i<size1;i++){
      for(j=0;j<size2;j++){
        if(a[i]==b[j]){
          intersection[k]=a[i];
          k++;
        }
      }
    }
    //Sorting
    sort(k,intersection);
    //Removing
    size=removerepeated(k,intersection);
    printf("Array after intersection\n");
    if(size>0){
      for(i=0;i<size;i++){
        printf("%d\n",intersection[i]);
      }
    }else{
      printf("No intersection\n");
    }
}
int removerepeated(int size,int a[]){
  int i,j,k;
  for(i=0;i<size;i++){
```

```c
        for(j=i+1;j<size;){
            if(a[i]==a[j]){
                for(k=j;k<size;k++){
                    a[k]=a[k+1];
                }
                size--;
            }else{
                j++;
            }
        }
    }
    return(size);
}
void sort(int size,int a[]){
    int i,j,temp;
    for(i=0;i<size;i++){
        for(j=i+1;j<size;j++){
            if(a[i]>a[j]){
                temp=a[i];
                a[i]=a[j];
                a[j]=temp;
            }
        }
    }
}
```

OUTPUT

```
Enter size of an array1
4
Enter size of an array2
3
Enter numbers for array 1
10 20 30 50
Enter numbers for array 2
10 40 50
Array after intersection
10
50


...Program finished with exit code 0
Press ENTER to exit console.
```