# Taking union and intersection of two sorted arrays without using python built in functions

```python
def uni(arr1,arr2):
    set1,i,j,n,m = [],0,0,len(arr1),len(arr2)
    while(i < n and j< m):
        if(arr1[i] > arr2[j]):
            if set1 != []:
                if set1[-1] != arr2[j]:
                    set1.append(arr2[j])
            else:
                set1.append(arr2[j])

            j += 1
        else:
            if set1 != []:
                if set1[-1] != arr1[i]:
                    set1.append(arr1[i])
            else:
                set1.append(arr1[j])
            i += 1
    if(i<n-1):
        set1.append(*arr1[i:n])
    if(j<m-1):
        set1.append(*arr2[j:m])
    set1.pop()
    return set1

def inter(arr1,arr2):
    set1,i,j,n,m = [],0,0,len(arr1),len(arr2)
    while(i < n and j< m):
        if(arr1[i] == arr2[j]):
            set1.append(arr1[i])
            i,j=i+1,j+1
        elif(arr1[i] > arr2[j]):
            j += 1
        else:
            i +=1
    set1.pop()
    return set1
```

```python
arr1 = list(map(int,input("Enter values of first array: ").strip().split()))

arr2 = list(map(int,input("Enter values of second array: ").strip().split()))

arr1.append(np.inf)
arr2.append(np.inf)
```

```
Enter values of first array: 42 56 59 78 79 100 120 520 560
Enter values of second array: 42 51 53 69 78 79 98 120 420
```

```python
print("Union of arrays: "+str(uni(arr1,arr2)))
print("Intersection of arrays: "+str(inter(arr1,arr2)))
```

```
Union of arrays: [42, 51, 53, 56, 59, 69, 78, 79, 98, 100, 120, 420, 520, 560]
Intersection of arrays: [42, 78, 79, 120]
```