

```
// Given two arrays: a1[0..n-1] of size n and a2[0..m-1] of  
size m. Task is to check whether a2[] is a subset of a1[] or  
not. Both the arrays can be sorted or unsorted.
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// Expected Time Complexity: O(n)
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// Expected Auxiliary Space: O(n)
```

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// Test cases -
```

```
// o/p: no 🖱
```

```
int a1[] = {1, 2, 3, 4, 5, 6, 7, 8};
```

```
int a2[] = {1, 2, 3, 1};
```

```
// o/p: yes 🖱
```

```
int a1[] = {1, 2, 3, 4, 5, 1, 1, 1};
```

```
int a2[] = {1, 2, 3, 1};
```

**a2 array is a subset of a1 array if all the elements of a2 are in a1 also. For a repeated element, it's occurrences in a1 should be greater than or equal to that in a2 array.**

**Optimized:** Define two unordered\_map – 'map1' and 'map2'. 'map1' stores <no., it's no. of occurrences> of all the elements of a1 array. Similar for 'map2' as well.

Traverse 'map2'. If a key is already present in 'map1'. Compare it's occurrence in a1 with that in a2. It's occurrences in a1 should be greater than or equal to that in a2 array.