1. Define a predicate orderd (List) that takes a list as input and is true when List is sorted either in ascending or descending order. For example, both List1 and List2 are ordered but List3 is not.

List1 = 
$$[1,2,2,5,7,8,10]$$
  
List2 =  $[15,13,12,12,10,5,6]$   
List3 =  $[3,4,1,2,6,7]$ 

2. Define a predicate shift(L1, L2) so that L2 is 'shifted rotationally' by two elements to the left. For example,

```
?- shift([1,2,3,4,5,6,7,8],L1), shift(L1,L2)
will produce
L1 = [3, 4, 5, 6, 7, 8, 1, 2]
L2 = [5, 6, 7, 8, 1, 2, 3, 4]
```

3. Define a predicate setOverlap(S1,S2) that determines whether two sets (lists) have any common element or not. Use setOverlap(S1,S2) predicate to define predicate setDisjoint(S1, S2).