Remove Element

Given an array and a value, remove all instances of that value in place and return the new length.

The order of elements can be changed. It doesn't matter what you leave beyond the new length.

Solution 1

```
int removeElement(int A[], int n, int elem) {
    int begin=0;
    for(int i=0;i<n;i++) if(A[i]!=elem) A[begin++]=A[i];
    return begin;
}
```

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Solution 2

public class Solution {

```
public int removeElement(int[] A, int elem) {
   int m = 0;
   for(int i = 0; i < A.length; i++){

       if(A[i] != elem){
           A[m] = A[i];
           m++;
       }
   }

   return m;
}
```

}

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Solution 3

The basic idea is when elem is found at index i, let A[i] = the last element in the modifying array, then repeat searching until elem is not found.

```
public int removeElement(int[] A, int elem) {
    int len = A.length;
    for (int i = 0 ; i< len; ++i){
        while (A[i]==elem && i< len) {
            A[i]=A[--len];
        }
    }
    return len;
}
```

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