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HW4 Written part:

1. **$O(n)$**

2. **$O(\log(n))$**

3. The valid iterators are [**`begin()`**, **`deletedItr`**) and invalid ones are [**`deletedItr`**, **`end()`**]

4. Garbage value because since the capacity wouldn't be enough to support the Vector so when `reserve` would be called, a new array would be allocated so this `itr` would still be pointing to this old array.

5. (Assuming using the `SPARE_CAPACITY = 2` version)

112 would be printed because `v = 110` is going to create a temporary vector using 110 as parameter and then use move assignment to move the temporary into `v`.

6.

(a) **`copy(A.begin(), A.begin()+6, D.begin());`**

(b) **`count(B.begin(), B.end(), 1);`**

(c) **`cout << count_if(B.begin(), B.end(), bind1st(not_equal_to<int>(),1));`**

(d) **`find(A.begin(), A.end(), 5)`**

`cout << *vecItr;`

(e) **`find_if(C.begin(), C.end(), bind2nd(greater<int>(),2));`**

`cout << *vecItr;`

(f) **`reverse(C.begin(), C.end());`**

(g) **`sort(B.begin(),B.begin()+4);`**

`Sort(A.begin(), A.end(), greater<int>());`

(h) **`random_shuffle (A.begin(), A.end());`**

`replace_copy_if (A.begin(), A.end(), B.begin(), less_equal<int>(), 0);`