Quiz 1

**1.Removing duplicates from a sorted array**

int removeDuplicates(vector<int>& nums) {

if (nums.empty()) return 0;

int i = 0;

for (int j = 1; j < nums.size(); j++) {

if (nums[j] != nums[i]) {

i++;

nums[i] = nums[j];

}

}

return i + 1;

}

**2.Rotate Array**

void rotate(vector<int>& nums, int k) {

k = k % nums.size();

reverse(nums.begin(), nums.end());

reverse(nums.begin(), nums.begin() + k);

reverse(nums.begin() + k, nums.end());

}

**3.Finding Duplicates**

bool containsDuplicate(vector<int>& nums) {

unordered\_set<int> seen;

for (int num : nums) {

if (seen.find(num) != seen.end()) {

return true;

}

seen.insert(num);

}

return false;

}

**4. Single number**

int singleNumber(vector<int>& nums) {

int single = 0;

for (int num : nums) {

single ^= num;

}

return single;

}