Unsorted Array: Return a New/Modified Array

1. Write a function that takes an unsorted integer array as input and returns a copy of the array as output.
2. Given an unsorted array A of size N, subtract the mean of the array elements from all the elements in the array and return a new array containing those values.
3. Given an unsorted integer array, return a new array with only the odd numbers from the input array.
4. Given an unsorted integer array, return a new array with only the even numbers from the input array.
5. Given an unsorted integer array, return a new array containing only the perfect squares from the input array.
6. Given an unsorted integer array, return a new array containing only the prime numbers from the input array.
7. Given an unsorted integer array, return a Boolean array, containing true or false depending on whether the element in the location is even or not.
8. Given an unsorted integer array with N elements, return a Boolean array, containing true or false depending on whether the element in the location is odd or not.
9. Given a positive integer N (N<=100000), return a Boolean array of size N that contains true in those indices where the index value is a prime number and false otherwise.
10. Given a positive integer N (N<=100000), return a Boolean array of size N that contains true in those indices where the index value is a perfect square and false otherwise.