Unsorted Array: Advanced Problems / Challenges

1. Given an unsorted integer array A and a value X, find a subset of A of size three that adds up to X and print the values of those elements.
2. Given an unsorted integer array A and a value X, find the minimum size of the subset required, whose values adds up to X. Additionally, print the elements of that subset.
3. Given an unsorted integer array A and a value X, find the maximum size of the subset that could be formed, such that the elements add up to X. Additionally, print the elements of that subset.
4. Given an unsorted integer array A and a value X, return the subset of A containing values that are multiples of X. Assume there exists at least one such value.
5. Given an unsorted array, find if any two consecutive elements add up to X.
6. Given an unsorted array, return the indices of any two consecutive elements that add up to X, else return (-1, -1)
7. Given an unsorted array, find if any three consecutive elements add up to X.
8. Given an unsorted array, return the indices of any three consecutive elements that add up to X and return (-1, -1, -1) if not found.
9. Given an unsorted array, find if any K consecutive elements add up to X.
10. Given an unsorted array of distinct integers, count all the triplets such that sum of two elements equals the third element.
11. Given an unsorted array of N integers. Find the contiguous sub-array with maximum sum.
12. Given an unsorted array A of size N consisting of non-negative integers, find a continuous sub-array, which adds to a given number S. Return the indices of the start and end values and (-1, -1) otherwise.
13. Given an unsorted array A of positive integers of size N, Reverse every sub-array group of size K. (K<N)
14. Given an unsorted integer array A of size N, write a function that returns true if there is a triplet (a, b, c) that satisfies $a^2 + b^2 = c^2$, otherwise false.
15. Given an unsorted integer array of N elements. You need to find the sum of two elements such that sum is closest to zero.
16. Given an unsorted integer array of N elements. Find the pair of elements that are closest to each other.
17. Given an unsorted integer array of N elements. Find the pair of elements that are farthest from each other.
18. Given two unsorted integer arrays and a number x, find the pair whose sum is closest to x and the pair must have one element from each array.
19. Given an unsorted integer array of N elements, return the length of the largest subarray that is sorted (Ascending order).
20. Given an unsorted integer array of N elements, return the largest subarray that is sorted.