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Programming Assignment 2

The basic idea concept for my program is first to store the weight for each pork chops while keeping track of the total sum of the weight. Then, sort all of the weight by using radix sort. Then use double for loop, the outer loop will loop from I = 0 to n-1, while J will loop from J = i+1 to n-1. It will use brute force to sum each weight with the weight beside it. If the total sum of the weight can reach the total weight/2, then the answer is found, else if the total sum reach more than total weight/2, then the outer loop will iterate to the next element and repeat this process. This is inspired by the greedy algorithm, to pick the smallest element first and start adding the next smallest element until total weight/2 is found or if it exceeds total weight/2, then the next iteration for the outer loop will start.

The time complexity is $O(n^3)$. This is because the brute force iteration takes $O(n^2)$ as it has two for loops, and this brute force iteration will start for each test case.