Exercise 2
7 min

2p **a) Read the whole problem before starting working on it.** *Given an array of N integers, re-arrange integers in the array such that the global sum listed below is maximum.*

$$\sum_{i=0}^{n-1} a[i] \cdot i$$

The following code snippet attempts to solve the problem stated above.

```c
void maxSum(int *a, int n) {
    int i;
    int j;
    int max;
    int maxPos;

    j = n - 1;
    while(j > 0) {
        int max = 0; // INT_MIN is a constant, you can find it in limits.h
        for(i = 0; i <= j; i++) {
            if(a[i] > max){
                max = a[i];
                maxPos = i;
            }
        }

        int aux = a[maxPos];
        a[maxPos] = a[j];
        a[j] = aux;

        j--;
    }
}
```

You have to read the algorithm and describe the strategy used to implement it. Don't describe the code. Describe the strategy and its motivation as briefly as possible.

1p **b)** What is **memoization** and how does it help?