**Documents for Problem 1**

1. Function increment return the increment size of sum. It will simply return the value of sum. Because sum is increment respect to the n.
2. The (best) Big-Oh of the running time incrementing sum is given below:
   1. For fragment 1 the big (O) is O (n).
   2. For fragment 2 the big (O) is O (n^2).
   3. For fragment 3 the big (O) is O (n^2).
   4. For fragment 4 the big (O) is O (n^3).
   5. For fragment 5 the big (O) is O (n^2).
   6. For fragment 6 the big (O) is O (n^4).

**Documents for Problem 2**

1. The total number of comparisons is 1 + 2(n-2) in the worst case. The worst case occurs when elements are sorted in descending order.
2. The best big (O) running time for every fragment is O (n).