1)

b)

Brute Force Test:

Left index is 3 right index is 4 maximum profit is 3

c)

Left index is 416 right index is 438 maximum profit is 99

Running time of brute force algorithm is 1621033800

2)

b)

Max Subarray Test:

left index= 3 right index= 3 maximum difference= 3

c)

Running time of max subarray algorithm is 7029900

left index= 416 right index= 438 maximum difference= 99

as we can see here, max sub array algorithm times faster than brute force algorithm.

3)

n0 (cross point) is 2. So, if array size is 2, max sub-array algorithm is faster than brute-force algorithm.