

1.Array size pertains to the number of elements contained in an array, while array capacity is the number of max elements that can be contained in an array.

2.To expand an array a larger space is allocated and each element is copied from the old list to the new one. In the first case this memory is allocated directly after the old array, with the later case a larger block must be found elsewhere.

Before expansion:

| 1 | 2 | 3 | 4 | 5 |

After expansion:

| 1 | 2 | 3 | 4 | 5 | 6 | | | |

3.A technique used to amortize the cost of expansion is expanding by a factor, which is the process in which the array capacity is expanded by a certain factor each time an expansion occurs. This causes for less expansions being needed and reduces the reallocations and copies needed.