1. False

-bucket is created according to the maximum value in the array, there could be many more wasted bucket space(when the input array elements are not consecutive) which increases the running time every time the bucket is scanned .

2. {80, 27, 72, 1, 27, 8, 64, 34, 16}

Radix=9;

R[]

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 |  |  |  |  |  |  |  |  |
| 72 | 64 |  |  |  |  |  | 16 | 8 |
| 27 | 1 |  |  |  |  |  | 34 | 80 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Q[]

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 34 |  |  |  |  |  |
| 8 |  |  | 27 |  |  |  |  | 80 |
| 1 | 16 |  | 27 |  |  |  | 64 | 72 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Sorted order: {1, 8, 16, 27, 27, 34, 64, 72, 80}

3.