

Answers to Table (by row):

1. 3
2. 2
3. 2
4. 2
5. 2
6. 3
7. 2
8. 2
9. 2
10. 1

Answers to Questions:

1. NO, performance might be quicker on certain “best case” inputs
2. NO, by the definition of Big-Oh, it might take order  $n^2$  on some inputs
3. NO, performance might be quicker on certain “best case” inputs
4. YES, if it took  $O(n)$  on all inputs, by definition it would not be  $\Omega(n^2)$ , and therefore would not be  $\Theta(n^2)$
5. YES, since for even input it is  $\Theta(n^2)$ , and for odd input it is  $\Theta(n^2)$ , then for all input it is  $\Theta(n^2)$