

Chapter 4 Answers to some of questions

True/False Questions

- 1) True
- 2) True
- 4) True
- 5) False

(we store attribute `self.size`, and simply return its value in the `self.size()` method, i.e. it is $\Theta(1)$ operation)

Multiple Choice questions

- 1) c) $\Theta(n)$

(worst case is when there is no free space at the beginning of the memory segment allocated for the list, hence the list needs to be copied into a new, double-the-size location)

- 2) a) $\Theta(1)$ (create new node, set its link to the past “head”-element)
- 3) c) $\Theta(n)$ (but on average it is $\Theta(1)$)
- 4) c) $\Theta(n)$ (we need to run through all the references to the last node)