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Task 2.2C (Algorithm complexity (Credit))

Question 1:

The algorithm complexity for each operation are:

1. *Count* : O(n)
2. *Capacity* : O(n)
3. *Add* : O(1)
4. *IndexOf* : O(n)
5. *Insert* : O(n)
6. *Clear* : O(1)
7. *Contains* : O(n)
8. *Remove* : O(n)
9. *RemoveAt* : O(n)

Question 2:

Conditions:

* is in
* is in
* is not in nor in

Explanations:

* Let say f(n) =
* f(n) satisfies all the conditions given.
* = as , for some constant c, and , for
* , for some constant d, and , for
* , some constant c, and , for or , for some constant c, and , for
* Similarly, we can write for
* We can example of "Merge sort" which has time complexity = in all cases (best, worst and average) which satisfies all the conditions given.

Question 3:

1. and 🡪
2. and 🡪
3. and 🡪
4. and 🡪
5. and 🡪
6. and 🡪