Worksheet 13 Review

March 31, 2020

Question 1

a. Since the loop starts from $i = 0$ and ends at $i = n - 1$. The loop has

$$n - 1 - 0 + 1 = n \tag{1}$$

iterations.

Since each iteration runs 5 steps, the loop has total cost of

$$5 \cdot n = 5n \tag{2}$$

steps.

Because we know $i = 0$ at line 2 has cost of 1, we can conclude that the algorithm has total cost of $5n + 1$ steps.

Notes:

- How does professor begin a proof after 'We will prove that...' or at the beginning of each case/parts?

Question 2

Question 3

Question 4