

**Starting with my timing code, add the necessary lines so you can time appending to a dynamic array. Run the code, and note any interesting observations/patterns.**

- I didn't require additional `#include` lines, not sure if my code could be affected by this
- It was interesting to see an apostrophe within an integer in `'int32_t const num_elems = 10'000;'`. I have never seen that before and am assuming that it is a feature included in the `'int32_t'` data type

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- I used the `.insert()` feature within the dynamic array and `.begin()` as well
- As an interesting note to come back to, we discussed Big O notation on Sunday. I am curious to see if I were to not use `.insert()` and `.begin()`, would my code runtime be longer?

**Starting with my timing code, add the necessary lines so you can time appending to a deque. Run the code, and note any interesting observations/patterns.**

- To be honest, deque seems to behave similar to a vector (dynamic array) when actually using and operating it
- There was little change to my code when comparing `vector<int32_t>` and `deque<int32_t>`
- I had to use `#include <deque>`, which I nearly forgot about and produced an error in my code

**Starting with my timing code, add the necessary lines so you can time prepending to a deque. Run the code, and note any interesting observations/patterns.**

- Naturally, the code result in this file was different from me appending it. This is because the numbers are being moved in a different order instead of just being added to the back
- I used the `.push_front()` feature to add the numbers very easily in the deque

**Are there any discrepancies between what you observed and what you expected? If so, try to find plausible explanations.**

- Not really, at least initially. With the help of `.push_front()`, `.push_back()`, `.insert()`, and `.begin()`, the code was very simple and straightforward
- However, my biggest question is surrounding runtime. Do these methods make the code run quicker than manually doing the work? I will say no because I feel that these methods simply hide the manual work that is being done by the computer's end. The runtime is still the same