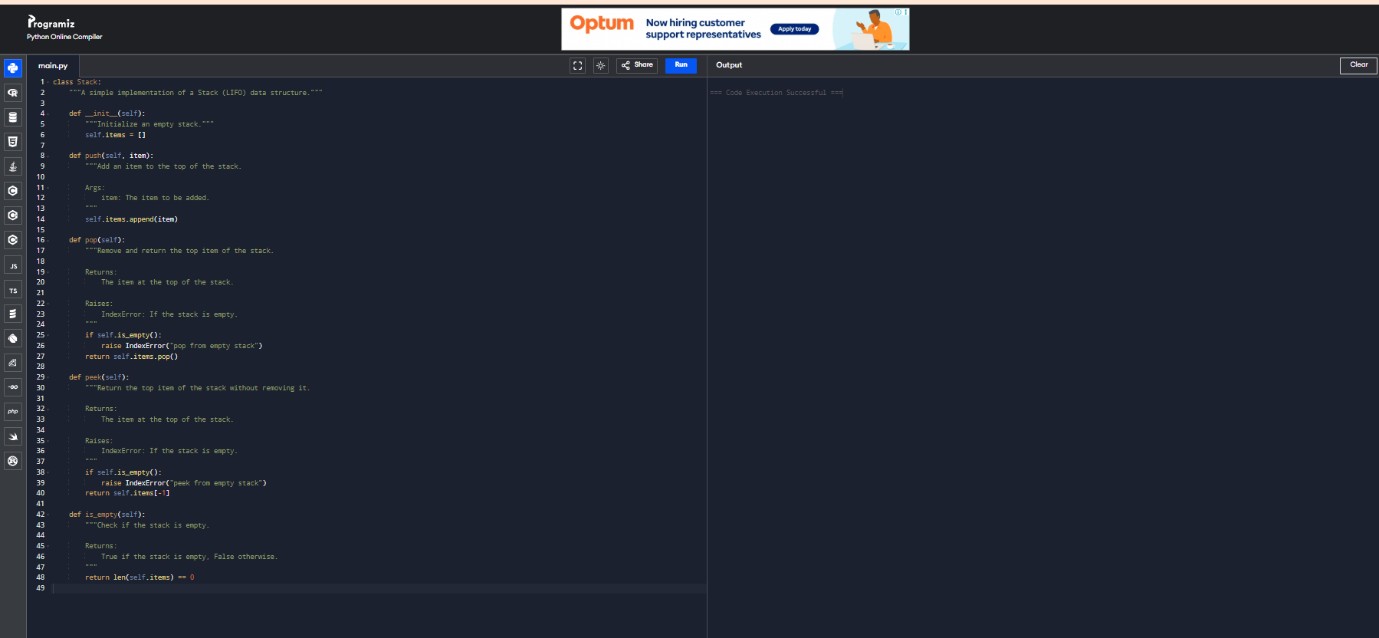
Assignment 11.4

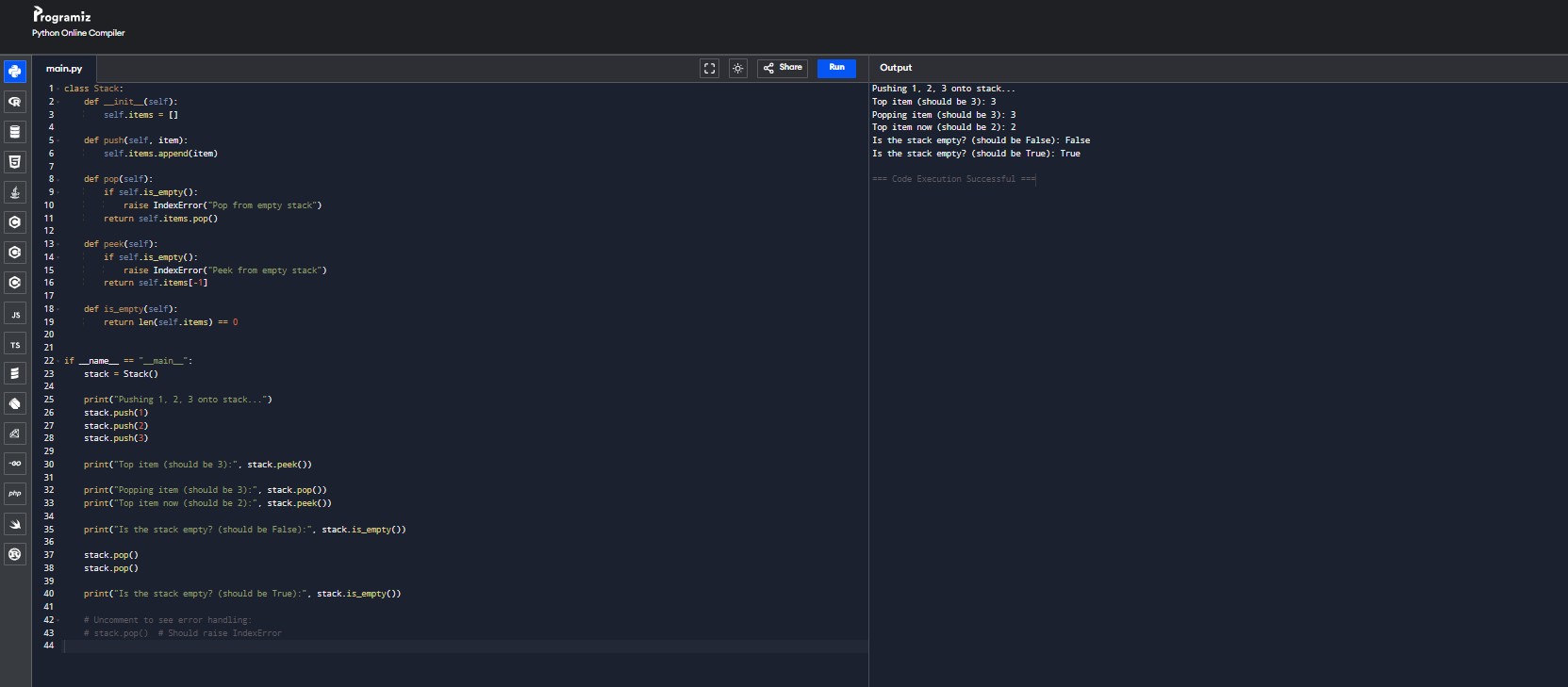
Task-1:

1. Code skeleton with **Google-style docstrings**
2. Sample **test code** for stack operations
3. Suggested **optimizations and alternatives**

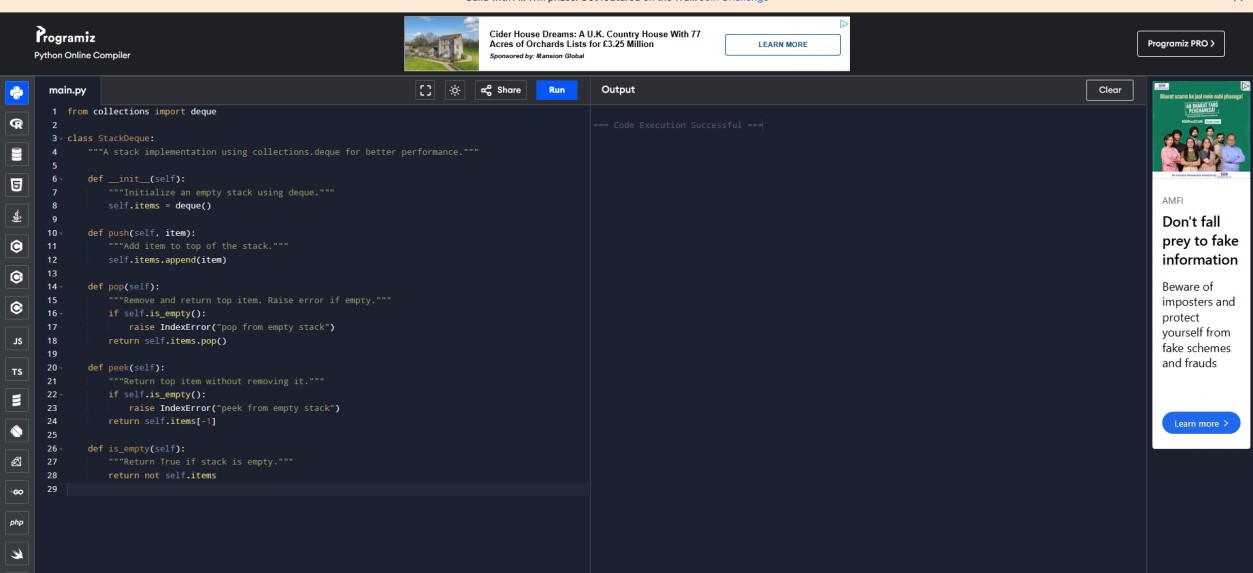
**1. Stack Class in Python (Using List)**



2.Sample **test code** for stack operations

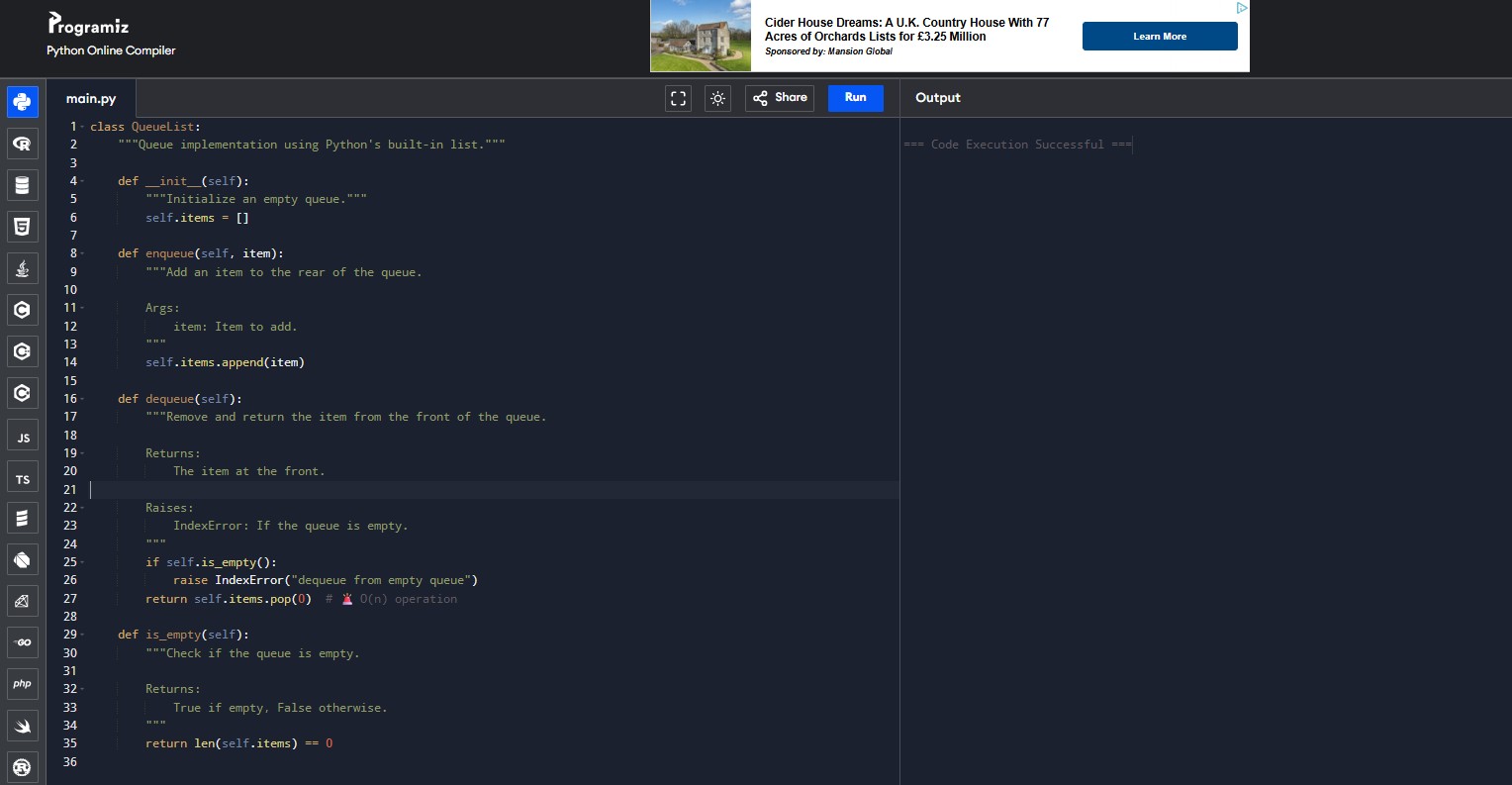


3. Suggested **optimizations and alternatives**

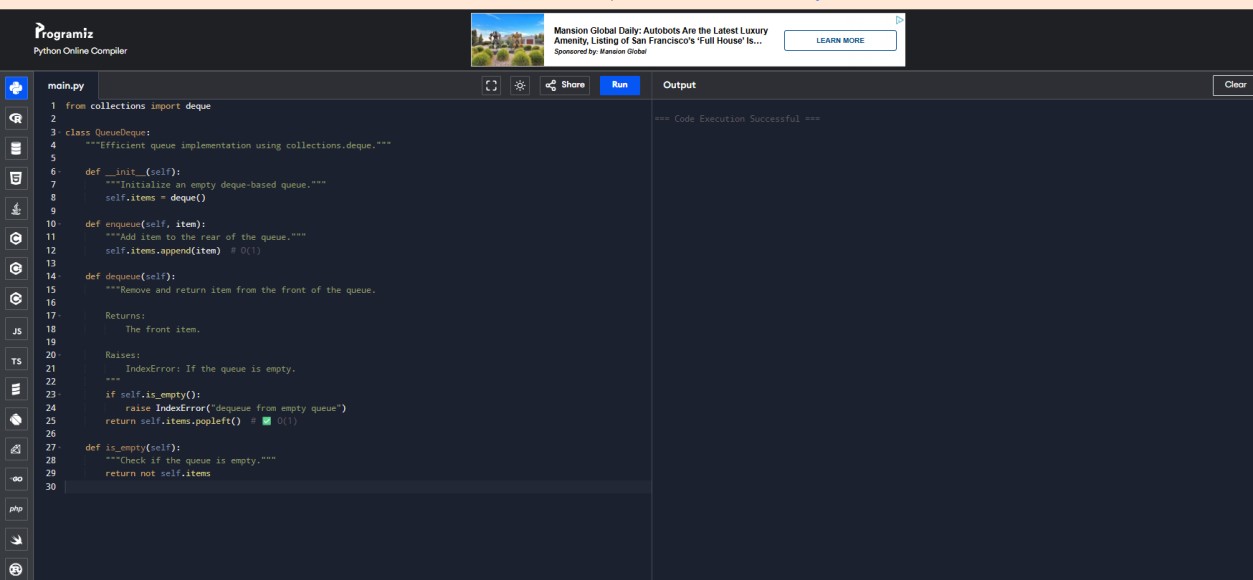


Task -2:

1.Queue python coding



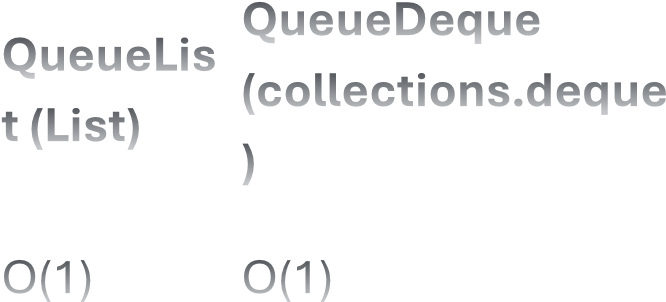
2.optimized python coding



3.

**Qu~~eu~~eDeq~~ue~~**

**Qu~~eu~~eLis**

**F~~e~~atu~~re~~ (collections.d~~e~~qu~~e~~**



**t (List)**

**)**

enqu~~eue~~() O(1) O(1) **QueueDeque**



**QueueLis**

**Feature (collections.deque**



**t (List)**

**)**

O(n)

dequeue() (due to O(1)



shifting)

Slightly more (due

Memory Overhead Low



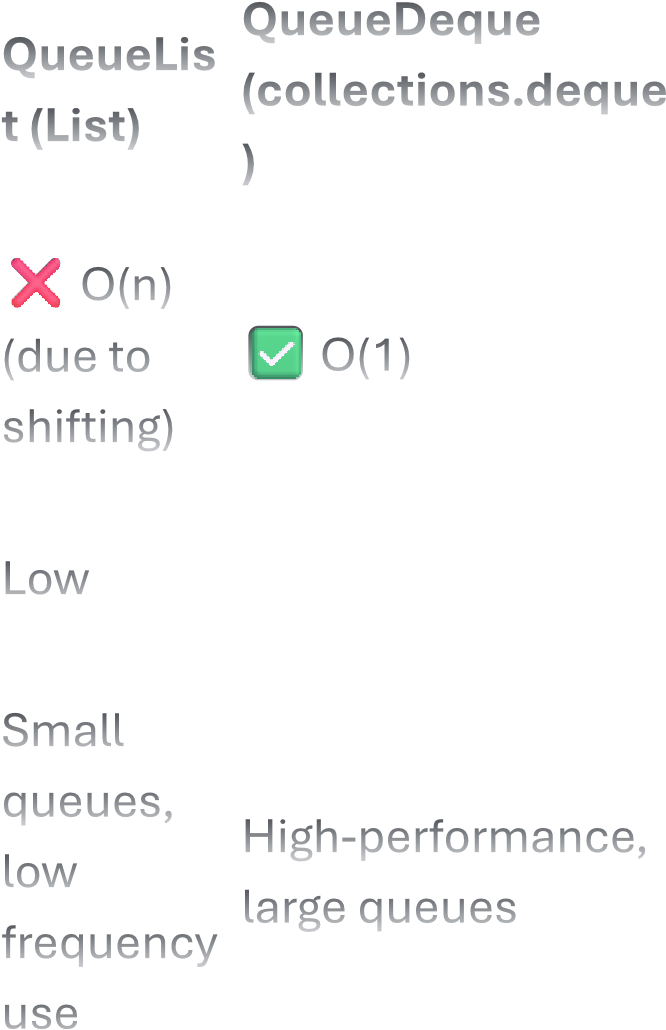
to blocks)

Small queues,

High-performance,

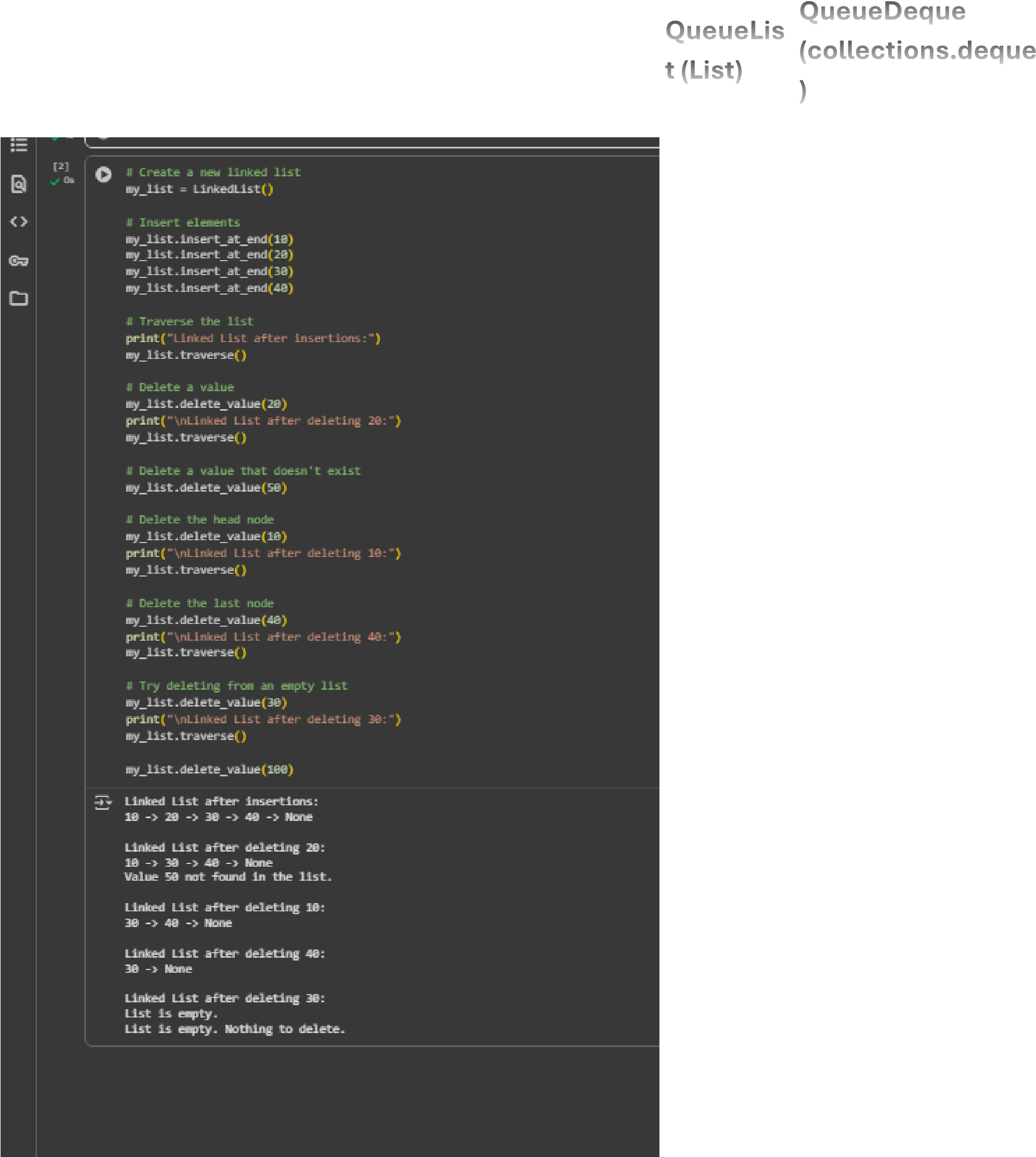
Use Case Suitability low~~-~~



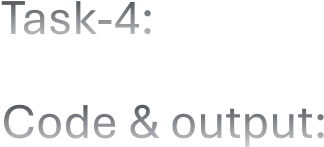
large queues frequency use

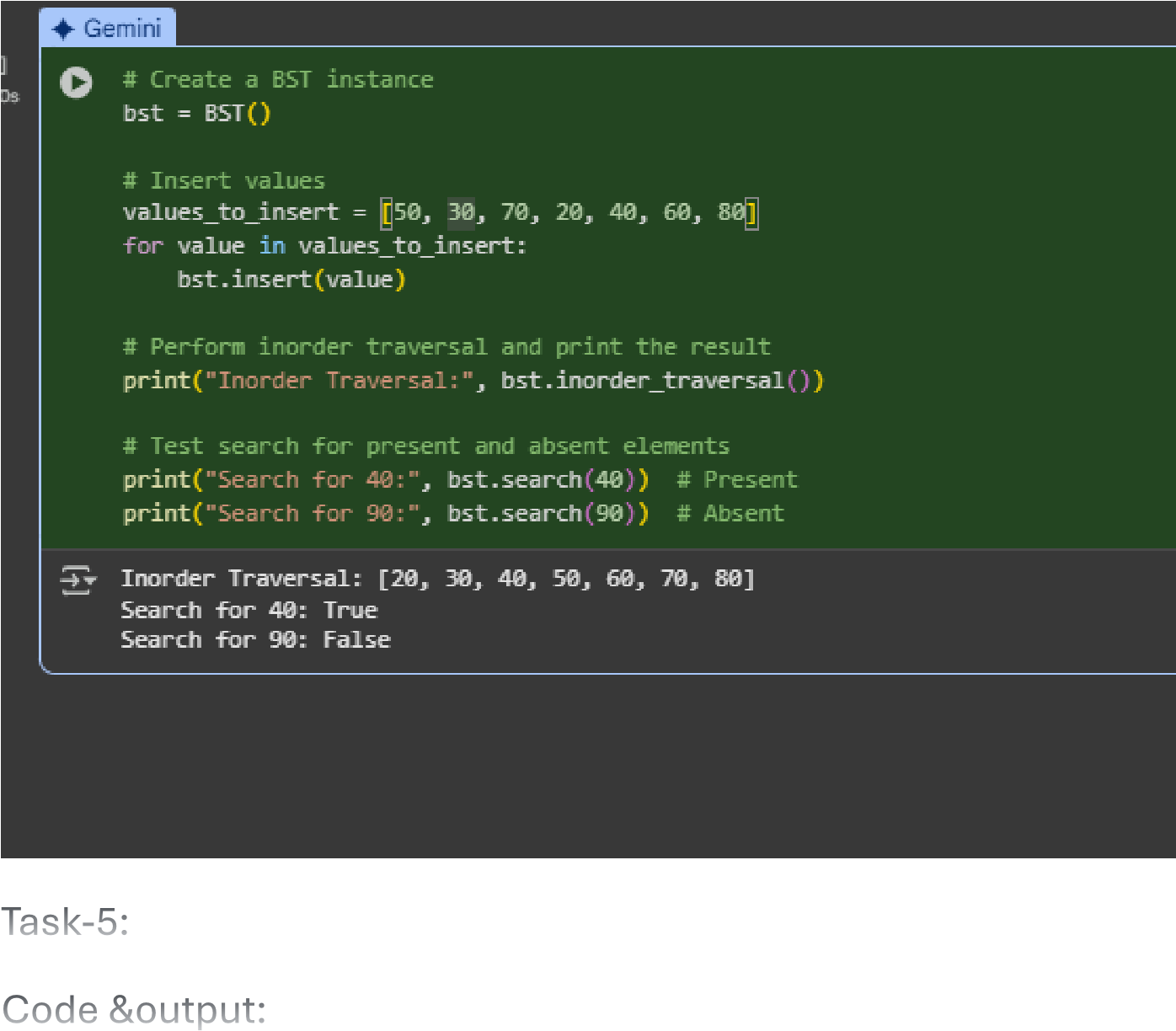
Task-3:

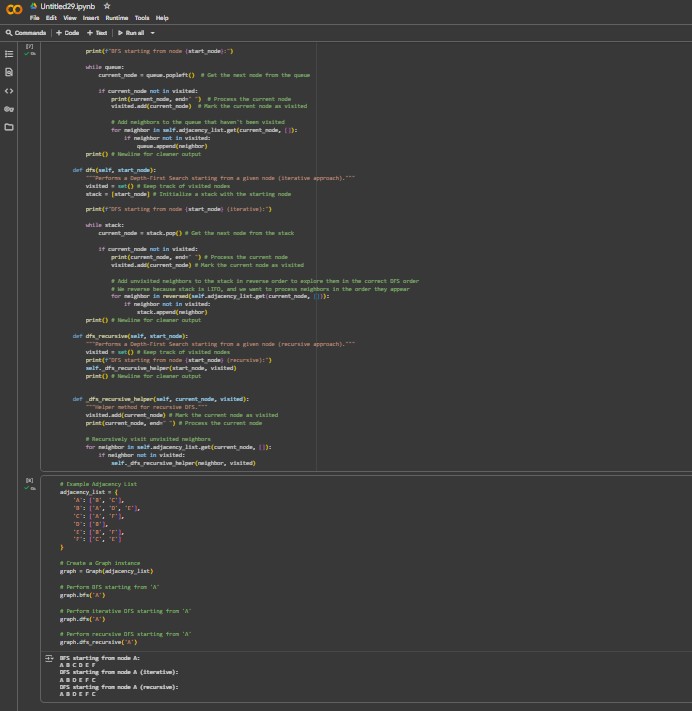


Task-4:



Code & output:





~~\*\*\*\*\*~~