January 2023 CSE 106
Online Assignment on Queues

Time: 30 minutes

Subsections C1 & C2

Tomorrow is the treasure hunt. Not all of you will participate unfortunately, but here is a little task for you all.

You (A) and your friend (B) have to withdraw several cards from a deck. You arrange your cards in a FIFO queue. Your friend arranges his/her cards in a LIFO stack. An organiser (C) is assigned as your supervisor. C can ask you or your friend for cards. C can end the task when s/he wants. When the task ends, C returns the cards to the deck in a FIFO manner.

You have to simulate the task using the ADTs (queue and stack using queue) you just implemented. Please follow the provided I/O formatting as much as possible. The output lines are marked blue for your convenience. You can assume the cards in a deck are marked as integers 1 to 52 (inclusive).

Sample I/O

```
A 1
A takes card 1 from deck
A 2
A takes card 2 from deck
B 8
B takes card 8 from deck
B 10
B takes card 10 from deck
C A
C takes card 1 from A
C B
C takes card 10 from B
A 30
A takes card 30 from deck
C A
C takes card 2 from A
C A
C takes card 30 from B
C A
A has no cards
C E
C returns card 1
C returns card 10
C returns card 2
C returns card 30
```