Practice Problems A1

1. Suppose you are given a sequence of parenthesis, eg. {{}}{}}}{{{{}}. Your task is to verify whether this sequence is in correct pattern or not. (hint: use stack)
2. Implement Queue using Stacks
3. Implement Stack using Queues
4. Implement Dqueue (Double ended queue)
5. Write a function to reverse the element of an arraylist
6. **Bitstuffing and Destuffing:**

Suppose you are given a char arraylist which has the following binary values,

Initial Arraylist:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 |
| Value | 10000000 | 11111000 | 00001111 | 11100011 | 0000000 | 11111111 |

Intermediate:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1000000 1 | 11111000 | 000 1 01111 | 11100011 | 000000 1 0 | 11111111 |

:::: 1000000111111000000101111111000110000001011111111

:::: 10000001 11111000 00010111 11110001 10000001 01111111 10000000

Stuffed ArrayList:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Value | 10000001 | 11111000 | 00010111 | 11110001 | 10000001 | 01111111 | 10000000 |

Write a function that takes, initial arraylist and converts into stuffed arraylist

Write another function that reverses the procedure.

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