Lab 4

Question:1

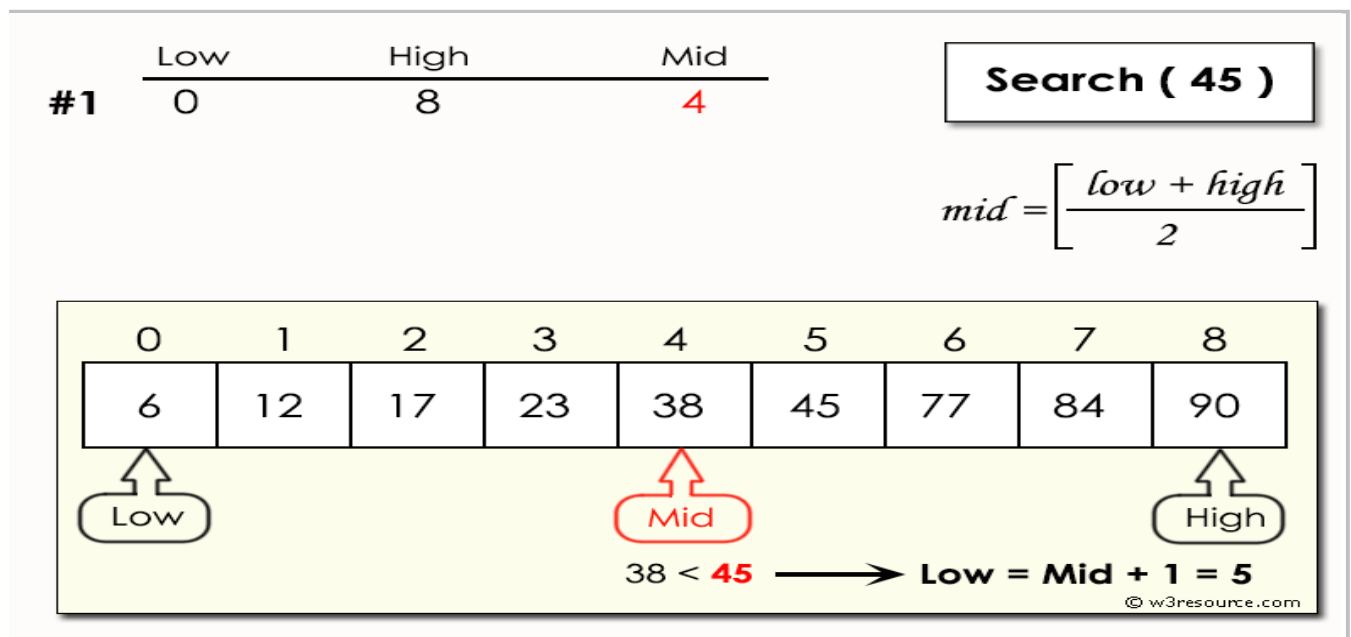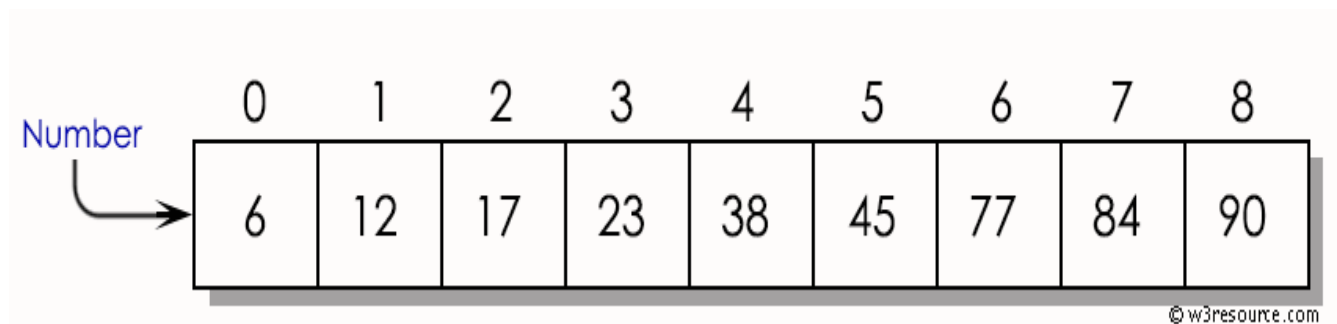Implement Stack using Python.

Question:2

Implement Queue using Python.

Question:3

In computer science, a binary search or half-interval search algorithm finds the position of a target value within a sorted array. The binary search algorithm can be classified as a dichotomies divide-and-conquer search algorithm and executes in logarithmic time.
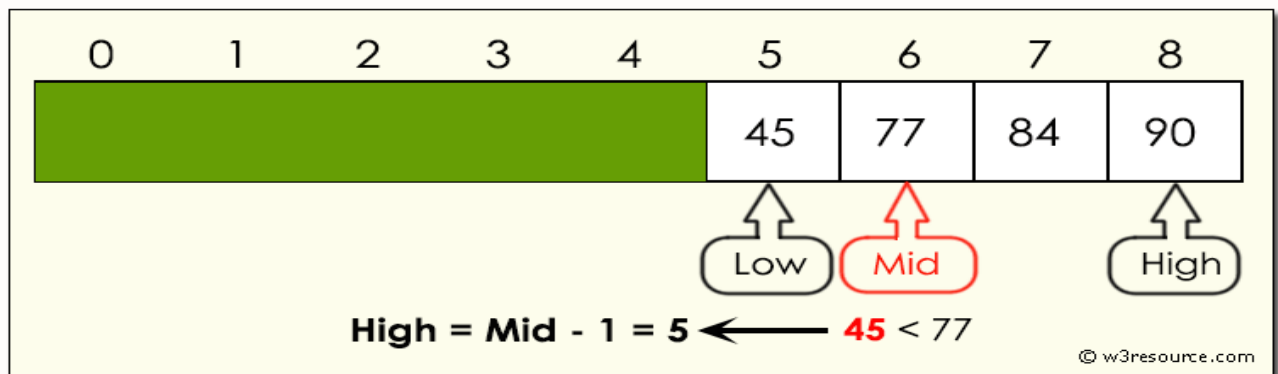
Step by step Example:

	Low	High	Mid
#1	0	8	4
#2	5	8	6

Search (45)

$$mid = \left[\frac{low + high}{2}\right]$$

0	1	2	3	4	5	6	7	8
					45	77	84	90

Low   Mid   High

High = Mid - 1 = 5 ⟵ **45** < 77

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	Low	High	Mid
#1	0	8	4
#2	5	8	6
#3	5	5	5

Search (45)

$$mid = \left[\frac{low + high}{2}\right]$$

0	1	2	3	4	5	6	7	8
					45			

Successful Search !!

Low   High
Mid

45 = = 45

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