

# Collection

→ Array  
→ N/A

Collection  
add  
remove

Stack  
Queue

# SORTING

LINEAR  
Insertion Sort

Priority Queue

List

Linear

# HEAP

add to outside level  
left to right  
more toward left if  
child is smaller than  
parent

# Speed

- 1 → 1
- 2 → 1
- 3 → 1
- 4 → 2
- 5 → 2
- 6 → 2
- 7 → 2
- 8 → 3
- 9 → 3

2 → 16 → 5

Stack Queue List  
push add add  
pop remove remove

next reset you get  
old set  
get (int i)  
array

CONSTANT  
3

CONSTANT

LINEAR  
size 12

15 → 15  
500 → 1 ~ 5000

logarithmic  
 $2^n$   
 $\log_2(n)$   
1000000 ~ 20