**20190110---20190113**

**HashMap:**

Map<Integer, Integer> map = new HashMap<>();

map.put(key, value);

map.get(key);

map.containsKey(value);

**Array:**

Declare a new array: new int[] {i, j};

**2. Add Two Numbers**

**200. Number of islands**

1. initialize 2-d array:

char[][] grid = {{'1', '1', '1', '1','0'}, {'1', '1', '0','1','0'}, {'1', '1', '0','0','0'}, {'0', '0', '0','0','0'}};

2. create a LinkedList:

LinkedList<Integer> neighbors = new LinkedList<>();

LinkedList API:

neighbors.add( );

neighbors.isEmpty();

neighbors.remove()

**1. Two Sum**

**2019/01/13----2019/01/20**

**3. Longest Substring Without Repeating Characters**

1. Math.max(a, b)

2. the length of string s: s.length()

3. initial an empty array with length 128: int[] name = new int[128];

4. in an int array when put a character in it, it will store its ascii number

**4. Median of Two Sorted Arrays**

1. the length of an array: num.length;

**904 Fruit Into Baskets**

1. ArrayList API:

List<Integer> blockLefts = new ArrayList();

blockLefts.add(i);

blockLefts.size()

blockLefts.get(j)

2. HashSet API

Set<Integer> types = new HashSet();

types.add(i);

types.size()

**20. Valid Parentheses**

1. Stack API

Stack<Character> stack = new Stack<>();

stack.push( );

stack.isEmpty()

stack.peek();

stack.pop();

**56. Merge Intervals**

New and useful API, see the java file!!

**15. 3Sum**

1. Arrays API:

Arrays.sort(nums); sort an array

List<String> stooges = Arrays.asList("Larry", "Moe", "Curly"); Returns a

fixed-size list backed by the specified array

2.LinkedList API:

res.add(E); Appends the specified element to the end of this list.

**929. Unique Email Addresses**

1. String API

indexOf(int ch) : Returns the index within this string of the **first** occurrence of

the specified character. Eg: int i = email.indexOf('@');

contains(CharSequence s): Returns true if and only if this string contains the

specified sequence of char values. Eg: local.contains("+");

replaceAll(String regex, String replacement): Replaces each substring of this

string that matches the given regular expression with the given replacement.

Eg: local = local.replaceAll(".", "");

**Copy\_List\_with\_Random\_Pointer\_138**

**Integer\_to\_English\_Words\_273**

**Longest\_Palindromic\_Substring\_5**

**2019/01/21----2019/01/27**

**53. Maximum Subarray**

Initialize a new array with size n: int[] dp = new int[n];

**206. Reverse Linked List**

**121. Best Time to Buy and Sell Stock**

int minprice = Integer.MAX\_VALUE;

**23. Merge k Sorted Lists**

**253. Meeting Rooms II**

1.Arrays.sort();

2. new Comparator<>(){ … }

3. Priority Queue API

constructor with Comparator

add();

peek();

poll();

size();

**7. Reverse Integer**

**141. Linked List Cycle**

**238. Product of Array Except Self**

**33. Search in Rotated Sorted Array**

**269. Alien Dictionary**

1. StringBuilder sb = new StringBuilder();

2. public StringBuilder reverse()

3. public String toString()

4. public StringBuilder append(char c)

**2019/01/28----2019/02/3**

**10. Regular Expression Matching**

**9. Palindrome Number**

**31. Next Permutation**

**22. Generate Parentheses**

**42. Trapping Rain Water**

**21. Merge Two Sorted Lists**

**76. Minimum Window Substring**

**297. Serialize and Deserialize Binary Tree**

1. String API:

split(String regex) : Splits this string around matches of the given regular expression.

Ex: String[] data\_array = data.split(",");

Boolean equals(Object anObject) Compares this string to the specified object.

2. Array API:

asList(T... a) : Returns a fixed-size list backed by the specified array.

Ex: Arrays.asList(data\_array)

3. LinkedList API:

add(E e) Appends the specified element to the end of this list.

E remove(int index) :Removes the element at the specified position in this list.

E get(int index) : Returns the element at the specified position in this list.

**482. License Key Formatting**

1. StringBuilder API

StringBuilder append(char c) :Appends the string representation of the char argument to this sequence.

int length() : Returns the length (character count).

StringBuilder reverse() : Causes this character sequence to be replaced by the reverse of the sequence.

String toString() : Returns a string representing the data in this sequence.

2. String API

String toUpperCase() : Converts all of the characters in this String to upper case using the rules of the default locale.

**17. Letter Combinations of a Phone Number**

1. String API

char[] toCharArray() : Converts this string to a new character array.

2. StringBuilder

StringBuilder deleteCharAt(int index): Removes the char at the specified position in this sequence.

**771. Jewels and Stones**

1. HashSet API

Boolean add(E e) : Adds the specified element to this set if it is not already present.

**322. Coin Change**

1. Arrays API

static void fill(int[] a, int val): Assigns the specified int value to each element of the specified array of ints.

**681. Next Closest Time**

1. Integer API

static int parseInt(String s) :Parses the string argument as a signed decimal integer.

2. String API

static String format(String format, Object... args) : Returns a formatted string using the specified format string and arguments.

Ex: String.format("%02d:%02d", cur / 60, cur % 60);

**2019/02/04----2019/02/10**

**560. Subarray Sum Equals K**

**139. Word Break**

**399. Evaluate Division**

**54. Spiral Matrix**

**159. Longest Substring with At Most Two Distinct Characters**

**393. UTF-8 Validation**

1. Integer API

String toBinaryString(int i) : Returns a string representation of the integer argument as an unsigned integer in base 2.

**621. Task Scheduler**

**13. Roman to Integer**

1. String API

Int indexOf(String str) : Returns the index within this string of the first occurrence of the specified substring.

**98. Validate Binary Search Tree**

**289. Game of Life**

**88. Merge Sorted Array**

**344. Reverse String**

**91. Decode Ways**

**236. Lowest Common Ancestor of a Binary Tree**

**695. Max Area of Island**

**49. Group Anagrams**

1. String API

static String valueOf(char[] data) : Returns the string representation of the char array argument.

2. HashMap API

Collection<V> values() : Returns a Collection view of the values contained in this map.

3. ArrayList API

ArrayList(Collection<? extends E> c) : Constructs a list containing the elements of the specified collection, in the order they are returned by the collection's iterator.

**2019/02/11----2019/02/17**

**412. Fizz Buzz**

**41. First Missing Positive**

**224. Basic Calculator**

**380. Insert Delete GetRandom O(1)**

1. ArrayList API

E get(int index) : Returns the element at the specified position in this list.

E set(int index, E element) : Replaces the element at the specified position in this list with the specified element.

E remove(int index) : Removes the element at the specified position in this list.

2. HashMap API

V remove(Object key) : Removes the mapping for the specified key from this map if present.

3. Random API (An instance of this class is used to generate a stream of pseudorandom numbers.)

Int nextInt(int bound) : Returns a pseudorandom, uniformly distributed int value between 0 (inclusive) and the specified value (exclusive), drawn from this random number generator's sequence.

**8. String to Integer (atoi)**

1. Character API

static Boolean isDigit(char ch) : Determines if the specified character is a digit.

Ex: Boolean b = Character.isDigit(str.charAt(i));

**301. Remove Invalid Parentheses**

1. StringBuilder API

StringBuilder deleteCharAt(int index) : Removes the char at the specified position in this sequence.

**46. Permutations**

**642. Design Search Autocomplete System**

1. Collections API

static <T> void sort(List<T> list, Comparator<? super T> c):

Sorts the specified **list** according to the order induced by the specified comparator.

2. String API

int compareTo(String anotherString) : Compares two strings lexicographically.

(more information see the java doc)

3. HashMap API

V getOrDefault(Object key, V defaultValue) : Returns the value to which the specified key is mapped, or defaultValue if this map contains no mapping for the key.

**127. Word Ladder**

1. HashSet API

Constructor:

HashSet(Collection<? extends E> c) : Constructs a new set containing the elements in the specified collection.

Ex: List<String> wordList

Set<String> wordListt = new HashSet<>(wordList);

2. String API

static String valueOf(char[] data) : Returns the string representation of the char array argument.

Ex: char[] chs = word.toCharArray();

String target = String.valueOf(chs);

**151. Reverse Words in a String**

Solution2.java API

**295. Find Median from Data Stream**

1. PriorityQueue API

Boolean add(E e) : Inserts the specified element into this priority queue.

E peek() : Retrieves, but does not remove, the head of this queue, or returns null if this queue is empty.

E poll() : Retrieves and removes the head of this queue, or returns null if this queue is empty.

int size() : Returns the number of elements in this collection.

**67. Add Binary**

**84. Largest Rectangle in Histogram**

1. Stack API

Boolean empty() : Tests if this stack is empty.

E peek() : Looks at the object at the top of this stack without removing it from the stack.

**85. Maximal Rectangle**

**25. Reverse Nodes in k-Group**

**173. Binary Search Tree Iterator**

**79. Word Search**

**283. Move Zeroes**

**158. Read N Characters Given Read4 II - Call multiple times**

**124. Binary Tree Maximum Path Sum**

**2019/02/18----2019/02/24**

**215. Kth Largest Element in an Array**

**394. Decode String**

**844. Backspace String Compare**

**239. Sliding Window Maximum**

1. LinkedList API (using as deque)

**The meaning of the methods can be duplicate, see the official doc**

E peekFirst() :Retrieves, but does not remove, the first element of this list, or returns null if this list is empty.

E poll() : Retrieves and removes the head (first element) of this list.

E peekLast() : Retrieves, but does not remove, the last element of this list, or returns null if this list is empty.

E removeLast() : Removes and returns the last element from this list.

boolean offerLast(E e) : Inserts the specified element at the end of this list.

E peek() : Retrieves, but does not remove, the head (first element) of this list.

**528. Random Pick with Weight**

1. Class Random API

Int nextInt(int bound) : Returns a pseudorandom, uniformly distributed int value between 0 (inclusive) and the specified value (exclusive), drawn from this random number generator's sequence.

**72. Edit Distance**

**336. Palindrome Pairs**

**103. Binary Tree Zigzag Level Order Traversal**