11-dars. JS sonlar va matn ustida amallar (Numbers, Strings) HOMEWORK

11-dars. HOME WORK

1. Minimum Remove to Make Valid Parentheses

   > *Given a string s of* `'('` *,* `')'` *and lowercase English characters.*

> *Your task is to remove the minimum number of parentheses (* `'('` *or* `')'`*, in any positions) so that the resulting parentheses string is valid and return any valid string.*

Formally, a *parentheses string* is valid if and only if:

- It is the empty string, contains only lowercase characters, or
- It can be written as `AB` (`A` concatenated with `B`), where `A` and `B` are valid strings, or
- It can be written as `(A)`, where `A` is a valid string.

Example 1:

Input: s = "lee(t(c)o)de)" Output: "lee(t(c)o)de" Explanation: "lee(t(co)de)" , "lee(t(c)ode)" would also be accepted.

Example 2:

Input: s = "a)b(c)d" Output: "ab(c)d"

Example 3:

Input: s = "))((" Output: "" Explanation: An empty string is also valid.

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3. Roman to Integer

   > *Roman numerals are represented by seven different symbols:* `I`*,* `V`*,* `X`*,* `L`*,* `C`*,* `D` *and* `M`*.*

Symbol Value I 1 V 5 X 10 L 50 C 100 D 500 M 1000

For example, `2` is written as `II` in Roman numeral, just two ones added together. `12` is written as `XII`, which is simply `X + II`. The number `27` is written as `XXVII`, which is `XX + V + II`.

Roman numerals are usually written largest to smallest from left to right. However, the numeral for four is not `IIII`. Instead, the number four is written as `IV`. Because the one is before the five we subtract it making four. The same principle applies to the number nine, which is written as `IX`. There are six instances where subtraction is used:

- `I` can be placed before `V` (5) and `X` (10) to make 4 and 9.
- `X` can be placed before `L` (50) and `C` (100) to make 40 and 90.
- `C` can be placed before `D` (500) and `M` (1000) to make 400 and 900.

Given a roman numeral, convert it to an integer.

Example 1:

Input: s = "III" Output: 3 Explanation: III = 3.

Example 2:

Input: s = "LVIII" Output: 58 Explanation: L = 50, V= 5, III = 3.

Example 3:

Input: s = "MCMXCIV" Output: 1994 Explanation: M = 1000, CM = 900, XC = 90 and IV = 4.

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4. Contains Duplicate II

   > *Given an integer array* `nums` *and an integer* `k`*, return* `true` *if there are two distinct indices* `i` *and* `j` *in the array such that* `nums[i] == nums[j]` *and* `abs(i - j) <= k`*.*

Example 1:

Input: nums = [1,2,3,1], k = 3 Output: true

Example 2:

Input: nums = [1,0,1,1], k = 1 Output: true

5. Bilmasvoy matematikada

Bilmasvoy matematikaga qiziqib qoldi. Misollar ishlashni ham boshladi. Lekin $(a^c * b^d)^{c+d}$ ni hisoblashda biroz qiynalyapti. Siz bu ifodani hisoblashda Bilmasvoyga yordam bering.

Kiruvchi ma'lumotlar:

Sizga yagona qatorda a, b, c , d natural sonlari beriladi($1 \le a$, $b \le 1018$, $1 \le c$, $d \le 10\ 500000$).

Chiquvchi ma'lumotlar:

Ifoda qiymatining 109+7 ga bo'lgandagi qoldiqni chop eting!

Misollar

#	input	output
1	1 1 1 1	1

6. Defis - bu chiziqcha

S matn yoki so'z beriladi. Sizning vazifangiz ushbu matndagi so'zlarni defis bilan ajratishingiz kerak. Matndagi so'z 10 belgidan oshsa so'zning o'rtasiga defis qo'yilgan holda ikkiga bo'lib, agar matndagi so'z 10 belgidan oshsa va belgilar soni toq bo'lib qolsa so'zining ikkinichi tomoniga ortiqcha bo'lib qolgan belgini qo'shib ikkiga bo'lingan holda chop eting.

Kiruvchi ma'lumotlar:

bitta qatorida matn yoki so'z.

Chiquvchi ma'lumotlar:

Chiqish faylida masala javobini chop eting.

Misollar

#	input	output
1	Assalomu Alaykum Javohir	Assalomu-Alaykum-Javohir
2	Robocontest contest	Roboc-ontest-contest
3	Bilmasvoyta'tilda	Bilmasvo-yta'tilda

7. ASCII code chiqarish

> *function bitta paramert olsin u tring ko'rinishda yoki son shu kiritilgan parametrini ascii codeni chiqarishi kerak*

8. Find the Largest Even Number

> *Write a function that finds the largest number in an array `nums` that is also even. If there is no even number, return `-1`.*

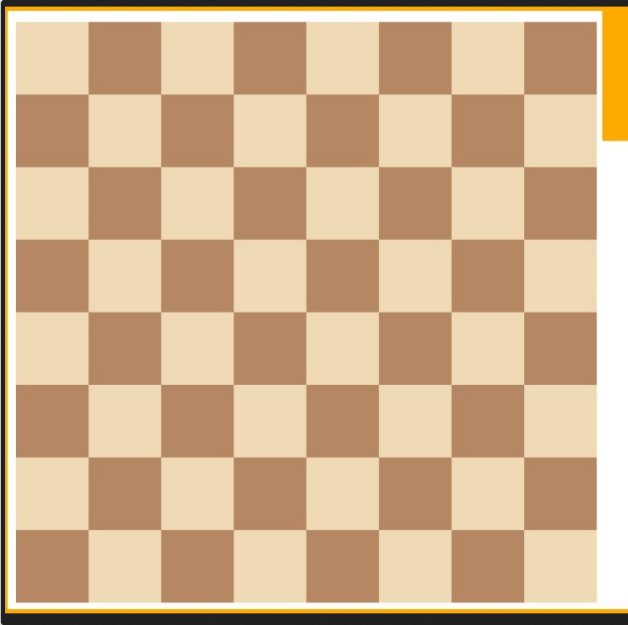> *Eng katta juft sonni qaytaradigan function yarating u array qabul qilsin.*

Examples

```
largestEven([3, 7, 2, 1, 7, 9, 10, 13]) → 10

largestEven([1, 3, 5, 7]) → -1

largestEven([0, 19, 18973623]) → 0
```

9. Loop ishlatgan holatda shahmat doskasini chiqarish

10. function yarating u n va k sonlarni qabul qilsin va pastda berilgan formulani hisoblab bersin

$$\lfloor \frac{n + 2^{k-1}}{2^k} \rfloor$$

White Spaces Between Lower and Uppercase Letters

Write a function that inserts a white space between every instance of a lower character followed immediately by an upper character.

Examples

```
insertWhitespace("SheWalksToTheBeach") → "She Walks To The Beach"

insertWhitespace("MarvinTalksTooMuch") → "Marvin Talks Too Much"

insertWhitespace("TheGreatestUpsetInHistory") → "The Greatest Upset In History"
```

2. Solve the Equation

Solve a given equation and return the value of `'x'` *in the form of a string* `"x=#value"`. *The equation contains only* `'+'`, `'-'` *operation, the variable* `'x'` *and its coefficient. You should return* `"No solution"` *if there is no solution for the equation, or* `"Infinite solutions"` *if there are infinite solutions for the equation.*

If there is exactly one solution for the equation, we ensure that the value of `'x'` is an integer.

Example 1:

Example 2:

Input: equation = "x=x" Output: "Infinite solutions"

Example 3:

Input: equation = "2x=x" Output: "x=0"

Constraints:

- 3 ≤ equation.length ≤ 1000
- equation has exactly one '='.
- equation consists of integers with an absolute value in the range [0, 100] without any leading zeros, and the variable 'x'.

DARSDA SHU MASALALARNI O"ZIM TANLAB BIR ODAMGA BERAMAN AGARDA AI YOZGAN BO'LSA BAHO 0 QO'YILADI VA QATTIQ CHORA KO'RILADI