5942. Finding 3-Digit Even Numbers

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User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Easy

You are given an integer array `digits`, where each element is a digit. The array may contain duplicates.

You need to find **all** the **unique** integers that follow the given requirements:

- The integer consists of the **concatenation** of **three** elements from `digits` in **any** arbitrary order.
- The integer does not have **leading zeros**.
- The integer is **even**.

For example, if the given `digits` were `[1, 2, 3]`, integers `132` and `312` follow the requirements.

Return *a **sorted** array of the unique integers.*

Example 1:

```
Input: digits = [2,1,3,0]
Output: [102,120,130,132,210,230,302,310,312,320]
Explanation:
All the possible integers that follow the requirements are in the output array.
Notice that there are no odd integers or integers with leading zeros.
```

Example 2:

```
Input: digits = [2,2,8,8,2]
Output: [222,228,282,288,822,828,882]
Explanation:
The same digit can be used as many times as it appears in digits.
In this example, the digit 8 is used twice each time in 288, 828, and 882.
```

Example 3:

```
Input: digits = [3,7,5]
Output: []
Explanation:
No even integers can be formed using the given digits.
```

Example 4:

```
Input: digits = [0,2,0,0]
Output: [200]
Explanation:
The only valid integer that can be formed with three digits and no leading zeros is 200.
```

Example 5:

```
Input: digits = [0,0,0]
Output: []
Explanation:
All the integers that can be formed have leading zeros. Thus, there are no valid integers.
```

Constraints:

- `3 <= digits.length <= 100`
- `0 <= digits[i] <= 9`

JavaScript

```javascript
const findEvenNumbers = (a) => {
    let n = a.length, res = new Set();
    for (let i = 0; i < n; i++) {
        for (let j = i + 1; j < n; j++) {
            for (let k = j + 1; k < n; k++) {
               let x = a[i] + '', y = a[j] + '', z = a[k] + '';
               let one = x + y + z, two = x + z + y, three = y + x + z;
               let four = y + z + x, five = z + x + y, six = z + y + x;
               if (ok(one)) res.add(one);
               if (ok(two)) res.add(two);
               if (ok(three)) res.add(three);
               if (ok(four)) res.add(four);
               if (ok(five)) res.add(five);
               if (ok(six)) res.add(six);
            }
        }
    }
    return [...res].map(Number).sort((x, y) => x - y);
};

const ok = (s) => {
  if (s[0] == '0') return false;
  let x = s - '0';
  return x % 2 == 0;
};
```

Custom Testcase Use Example Testcases

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