

5933. Sum of k-Mirror Numbers

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A **k-mirror number** is a **positive** integer **without leading zeros** that reads the same both forward and backward in base-10 **as well as** in base-k.

- For example, 9 is a 2-mirror number. The representation of 9 in base-10 and base-2 are 9 and 1001 respectively, which read the same both forward and backward.
- On the contrary, 4 is not a 2-mirror number. The representation of 4 in base-2 is 100, which does not read the same both forward and backward.

Given the base k and the number n, return the **sum** of the n **smallest** k-mirror numbers.

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

Example 1:

Input: k = 2, n = 5
Output: 25
Explanation:
The 5 smallest 2-mirror numbers and their representations in base-2 are listed as follows:

base-10	base-2
1	1
3	11
5	101
7	111
9	1001

Their sum = 1 + 3 + 5 + 7 + 9 = 25.

Example 2:

Input: k = 3, n = 7
Output: 499
Explanation:
The 7 smallest 3-mirror numbers are and their representations in base-3 are listed as follows:

base-10	base-3
1	1
2	2
4	11
8	22
121	11111
151	12121
212	21212

Their sum = 1 + 2 + 4 + 8 + 121 + 151 + 212 = 499.

Example 3:

Input: k = 7, n = 17
Output: 20379000
Explanation: The 17 smallest 7-mirror numbers are:
1, 2, 3, 4, 5, 6, 8, 121, 171, 242, 292, 16561, 65656, 2137312, 4602064, 6597956, 6958596

Constraints:

- 2 <= k <= 9
- 1 <= n <= 30

JavaScript

1 let a = [],

```
2 [1, 3, 5, 7, 9, 33, 99, 313, 585, 717, 7447, 9009, 15351, 32223, 39993, 53235, 53835, 73737, 585585, 1758571,
3 1934391, 1979791, 3129213, 5071705, 5259525, 5841485, 13500531, 719848917, 910373019, 939474939],
4 [1, 2, 4, 8, 121, 151, 212, 242, 484, 656, 757, 29092, 48884, 74647, 75457, 76267, 92929, 93739, 848848, 1521251,
5 2985892, 4022204, 4219124, 4251524, 4287824, 5737375, 7875787, 7949497, 27711772, 83155138],
6 [1, 2, 3, 5, 55, 373, 393, 666, 787, 939, 7997, 53235, 55255, 55655, 57675, 506605, 1801081, 2215122, 3826283,
7 3866683, 5051505, 5226225, 5259525, 5297925, 5614165, 5679765, 53822835, 623010326, 954656459, 517171715],
8 [1, 2, 3, 4, 6, 88, 252, 282, 626, 676, 1221, 15751, 18881, 10088001, 10400401, 27711772, 30322303, 47633674,
9 65977956, 808656808, 831333138, 831868138, 836131638, 836181638, 2512882152, 2596886952, 2893553982, 6761551676,
10 12114741121, 12185058121],
11 [1, 2, 3, 4, 5, 7, 55, 111, 141, 191, 343, 434, 777, 868, 1441, 7667, 7777, 22022, 39893, 74647, 168861, 808808,
12 909909, 1867681, 3097903, 4232324, 4265624, 4298924, 4516154, 4565654],
13 [1, 2, 3, 4, 5, 6, 8, 121, 171, 242, 292, 16561, 65656, 2137312, 4602064, 6597956, 6958596, 9470749, 61255216,
14 230474032, 466828664, 485494584, 638828836, 657494756, 858474858, 25699499652, 40130703104, 45862226854,
15 61454945416, 64454545446],
16 [1, 2, 3, 4, 5, 6, 7, 9, 121, 292, 333, 373, 414, 585, 3663, 8778, 13131, 13331, 26462, 26662, 30103, 30303,
17 207702, 628826, 660066, 1496941, 1935391, 1970791, 4198914, 55366355],
18 [1, 2, 3, 4, 5, 6, 7, 8, 191, 282, 373, 464, 555, 646, 656, 6886, 25752, 27472, 42324, 50605, 626626, 1540451,
19 1713171, 1721271, 1828281, 1877781, 1885881, 2401042, 2434342, 2442442]];
```

```
11 const kMirror = (k, n) => {
12   let res = 0;
13   for (let i = 0; i < n; i++) res += a[k][i];
14   return res;
15 }
```

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