Project Euler #111: Primes with runs

This problem is a programming version of Problem 111 from projecteuler.net

Considering 4-digit primes containing repeated digits it is clear that they cannot all be the same: 1111 is divisible by 11, 2222 is divisible by 22, and so on. But there are nine 4-digit primes containing three ones: $1117, 1151, 1171, 1181, 1511, 1811, 2111, 4111, 8111$.

We shall say that $M(n, d)$ represents the maximum number of repeated digits for an n-digit prime where d is the repeated digit; $N(n, d)$ represents the number of such primes; and $S(n, d)$ represents the set of these primes.

So $M(4, 1) = 3$ is the maximum number of repeated digits for a 4-digit prime where one is the repeated digit, there are $N(4, 1) = 9$ such primes, and $S(4, 1) = \{1117, 1151, 1171, 1181, 1511, 1811, 2111, 4111, 8111\}$. It turns out that for $d = 0$, it is only possible to have $M(4, 0) = 2$ repeated digits, but there are $N(4, 0) = 13$ such cases.

Determine the set $S(n, d)$ for a given values of n and d.

Input Format

First line contains an integer T denoting the number of test cases.
Each of the following T lines contain two integers n and d.

Constraints

$1 \le T \le 20$
$4 \le n \le 40$
$0 \le d \le 9$

Output Format

For each of T test cases print one line containing all $N(n, d)$ primes that belong to $S(n, d)$ in ascending order.

Sample Input

```
2
4 1
4 0
```

Sample Output

```
1117 1151 1171 1181 1511 1811 2111 4111 8111
1009 2003 3001 4001 4003 4007 5003 5009 6007 7001 8009 9001 9007
```