625. Minimum Factorization

- Difficulty:Medium
- Category:Algorithms
- Acceptance:28.75%

Given a positive integer a, find the smallest positive integer b whose multiplication of each digit equals to a.

If there is no answer or the answer is not fit in 32-bit signed integer, then return 0.

Example 1

Input:

```
48
```

Output:

```
68
```

Example 2

Input:

```
15
```

Output:

```
35
```

Seen this question in a real interview before?

```
 //author: MR.BLACK

class Solution {
public:
    int smallestFactorization(int a) {
```

```cpp
        int n = a;
        if (n<10) return n;
        vector<int> res;
        for(int i=9;i>1;i--)
        {
            while(n%i==0)
            {
                n = n/i;
                res.push_back(i);
            }
        }
        //cannot be solved
        if(n!=1) return 0;
        reverse(res.begin(),res.end());
        long long SUM = 0;
        for(int i=0;i<res.size();i++)
        {
            SUM = SUM*10 + res[i];
        }
        if(SUM>INT_MAX) return 0;
        return SUM;
    }
};
```