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#include <iostream>
#include <fstream>
#include <cmath>
#include <string>
#include <algorithm>

using namespace std;

ifstream fin("number.in");

typedef long long lint;

lint p;
lint n;

void read(){
    fin >> n >> p;
}

const lint magic = 41000000;
lint kafka(lint a){
    if(a <= 1){
        return 0;
    }
    int r = 0;
    for(lint i = 2; i*i <= a && i <= magic; i++){
        if(a%i == 0){
            r++;
        }
        while(a%i == 0){
            a /= i;
        }
    }
    if(a != 1){
        r++;
    }
    return r;
}

lint gime(lint a){
    for(int i = 0; i < p-1; i++){
        a /= 10;
    }
    return a%10;
}

lint wabs(lint a){
    if(a < 0){
        a = -a;
    }
    return a;
}

char ic(lint a){
    return (a%10 + '0');
}

```

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string s;
void addme(int a){
    do{
        s.push_back(ic(a%10));
        a /= 10;
    }while(a > 0);
}

void solve(){
    s = "";

    int pri = kafka(n);
    int a = gime(n);
    for(int i = 0; i < p-1; i++){
        int x = wabs(n%10 - a);
        addme(x);
        n /= 10;
    }

    addme(pri);
    n /= 10;

    while(n > 0){
        int x = (n%10 + a);
        addme(x);
        n /= 10;
    }

    reverse(s.begin(), s.end());
    cout << s << "\n";
}

int main()
{
    for(int acsl = 0; acsl < 5; acsl++){
        read();
        solve();
    }
    return 0;
}

```