```c
#include <stdio.h>
#include <math.h>

int main(){
    long n, nCopy, factor, i, factorPower;
    int firstCount = 0, consCount = 0, cons = 3, temp, power;
    int foundFactor = 0;
    scanf("%ld", &n);

    nCopy = n; // Copy n since I am going to distort n

    for(i = 2; i <= n && !foundFactor; i++){
        if(n % i == 0){ // Found a divisor
            factor = i;
            foundFactor = 1;
        }
    }

        power = 0;
    while(1){
        power++; // Lets hope a higher power is also a divisor
        factorPower = (long)pow(factor,power);
        if(n % factorPower != 0){ // Oops ... incremented power too much
            power--;
            break;
        }
    }

    int len = (int)log10(n);
    int first = n / (long)pow(10,len);

    while(nCopy){ // While n still has digits
        temp = nCopy % 10; // Last digit of n
        if(temp == cons)
            consCount++;
        if(temp == first)
            firstCount++;
        nCopy /= 10; // Remove the last digit of n
    }

    printf("%ld\n%d\n%d\n%d",factor,consCount,firstCount,power);

    return 0;
}
```