

how to find digit^{cnt} in a number.

$\overleftarrow{123456} \leftarrow$ 6 digit sum.

num \Rightarrow num/10 \Rightarrow Quotient \rightarrow 12345.
 \searrow Remainder \leftarrow last digit

$$\begin{array}{r} 10 \overline{) 123} \\ \underline{120} \\ 3 \end{array}$$

$$12 * 10 = 120$$

0-9

$$\begin{array}{r} 100 \overline{) 123} \\ \underline{100} \\ 23 \end{array} \leftarrow$$

0-9

$$\begin{array}{r} 10 \overline{) 12} \\ \underline{10} \\ 2 \end{array} \rightarrow$$

$$\begin{array}{r} 10 \overline{) 1} \\ \underline{0} \\ 1 \end{array}$$

1 < 2 < 3

```

=> while (num > 0) {
    ↳ last digit = num % 10
    ↳ num = num / 10
}

```

$$\begin{array}{r}
 123 / 10 = 12 \text{ remainder } 3 \\
 \rightarrow 12 / 10 = 1 \text{ remainder } 2 \\
 \rightarrow 1 / 10 = 0 \text{ remainder } 1
 \end{array}$$

→ count digits

```

int cnt = 0
while (num > 0) {
    cnt++
    num = num / 10
}

```

num = 12345

↳ 1234

↳ 123

↳ 12

↳ 1

↳ 0

cnt = 0 + 1 + 2 + 3 + 4 + 5

```

num = 123
while (num > 0) {
    cnt++
    num = num / 10
}

```

* num % x = Remainder

$$\begin{array}{r}
 12345 \\
 \leftarrow \text{Remainder}
 \end{array}$$

prime or not -

$\Rightarrow x \leftarrow \text{prime} \begin{cases} \text{Yes} \\ \text{No.} \end{cases}$

Q. full prime (GFG \rightarrow)

<https://www.geeksforgeeks.org/problems/full-prime2659/1?page=1&category=Prime%20Number&sortBy=submissions>

\Rightarrow num -

\hookrightarrow 1st check the num is prime or not

\hookrightarrow Yes \rightarrow check its digits are prime or not

\hookrightarrow if all digits are prime

\hookrightarrow full prime.

\hookrightarrow else not full prime.

\rightarrow No it's not full prime

$\Rightarrow \text{num } \underline{\underline{11}}, 12/$

2 3 4 5 6 7 8 9 10
_____ 11

```
for (2 — num) {  
    if (num % i == 0) return false;
```

}

num 37

2 — num

2 3 4 5 6

6
37

36

36

2, 3, 6, 9, 12, 18,

2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19
20 21 22 23 24 25 26 27 28
29 30 31 32 33 34 35 36

for (r=2; $i \leq \frac{n}{i}$; $i++$) {

if (n % i == 0) → return false.

}

1 2 3 4 5 6 7 = 7 → $n = (\sqrt{n})$
 $O(\sqrt{n}) * \log(n)$

$O(\sqrt{n}) * \log_{10}(n)$

$n = \frac{99}{\underline{\underline{53}}}$

i=2 = i*i = 4

i=3, i*i = 9

i=4 i*i = 16

i=5 i*i = 25

i=6 i*i = 36

i=7 i*i = 49

i=8 i*i = 64

0 ————— 9 →
 2 3 5 7 →
01 4 6 8 9 → Not prime

