

code  
armstrong in  
range

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();
```

```
    for (int i = x; i <= y; i++) {
        if (solve(i) == true) {
            System.out.println(i);
        }
    }
```

false == true ×

```
public static boolean solve(int num) {
    int count = noOfDigits(num);

    int ans = 0;
    int temp = num;
    while (num > 0) {
        int rem = num % 10;
        ans = ans + (int) Math.pow(rem, count);
        num = num / 10;
    }
    return (temp == ans); false
}
```

1234      count = 4

ans = 0  
temp = 1234

n = 123  
rem = 3  
ans = 0 + (4)<sup>4</sup>

n = 12  
rem = 2  
ans = 4<sup>4</sup> + 3<sup>4</sup> + 2<sup>4</sup>

n = 1  
rem = 1  
ans = 4<sup>4</sup> + 3<sup>4</sup> + 2<sup>4</sup> + 1<sup>4</sup>

n = 0  
ans = 4<sup>4</sup> + 3<sup>4</sup> + 2<sup>4</sup> + 1<sup>4</sup>

```
public static int noOfDigits(int num) {
    int count = 0;

    while (num > 0) {
        num = num / 10;
        count++;
    }

    return count;
}
```

$$= \text{Math.max}(4, 3) = 4$$

$$\text{Math.pow}(a, b) = a^b$$

$$2, 4 = 2^4 = 16.0$$

## Find GCD 3

↳ greatest common division

greatest no. which going to divide both values

---

$x = 100, y = 35$

3, 5

```
for (int i = 1;  $i \leq x \ \&\& \ i \leq y$ ; i++) {  
    if ( $x \% i == 0 \ \&\& \ y \% i == 0$ ) {  
        }  
}
```

## Find GCD 3

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();
    int ans = findGCD(x, y);
    System.out.println(ans);
}

public static int findGCD(int x, int y) {
    int ans = 0;
    for (int i = 1; i <= x && i <= y; i++) {
        if (x % i == 0 && y % i == 0) {
            ans = i;
        }
    }
    return ans;
}
```

$$x = 100, y = 35$$

$$i = 1, \text{ ans} = 1$$

$$i = 2,$$

$$i = 3,$$

$$i = 4,$$

$$i = 5,$$

$$\text{ans} = 5$$

$$i = 6,$$

$$i = 7,$$

$$i = 8,$$

$$i = 9,$$

$$i = 10,$$

$$i = 11,$$

$$i = 12,$$

$$i = 13,$$

$$i = 14,$$

$$i = 15,$$

$$i = 16,$$

$$i = 17,$$

$$i = 18,$$

$$i = 19,$$

$$i = 20,$$

$$i = 21,$$

$$i = 22,$$

$$i = 23,$$

$$i = 24,$$

$$i = 25,$$

$$i = 26,$$

$$i = 27,$$

$$i = 28,$$

$$i = 29,$$

$$i = 30,$$

$$i = 31,$$

$$i = 32,$$

$$i = 33,$$

$$i = 34,$$

$$i = 35,$$

$$i = 36,$$

$$i = 37,$$

$$i = 38,$$

$$i = 39,$$

$$i = 40,$$

$$i = 41,$$

$$i = 42,$$

$$i = 43,$$

$$i = 44,$$

$$i = 45,$$

$$i = 46,$$

$$i = 47,$$

$$i = 48,$$

$$i = 49,$$

$$i = 50,$$

$$i = 51,$$

$$i = 52,$$

$$i = 53,$$

$$i = 54,$$

$$i = 55,$$

$$i = 56,$$

$$i = 57,$$

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$$i = 63,$$

$$i = 64,$$

$$i = 65,$$

$$i = 66,$$

$$i = 67,$$

$$i = 68,$$

$$i = 69,$$

$$i = 70,$$

$$i = 71,$$

$$i = 72,$$

$$i = 73,$$

$$i = 74,$$

$$i = 75,$$

$$i = 76,$$

$$i = 77,$$

$$i = 78,$$

$$i = 79,$$

$$i = 80,$$

$$i = 81,$$

$$i = 82,$$

$$i = 83,$$

$$i = 84,$$

$$i = 85,$$

$$i = 86,$$

$$i = 87,$$

$$i = 88,$$

$$i = 89,$$

$$i = 90,$$

$$i = 91,$$

$$i = 92,$$

$$i = 93,$$

$$i = 94,$$

$$i = 95,$$

$$i = 96,$$

$$i = 97,$$

$$i = 98,$$

$$i = 99,$$

$$i = 100,$$

## Prime checker 2

(a no. which is divisible by either 1 or itself)

↳  $t = 5$

↳ 17 → Yes

↳ 8 → No

↳ 3 → Yes

↳ 1 → No

↳ 22 → No

$n = 17$

2, 3, 4, 5, ..., 16

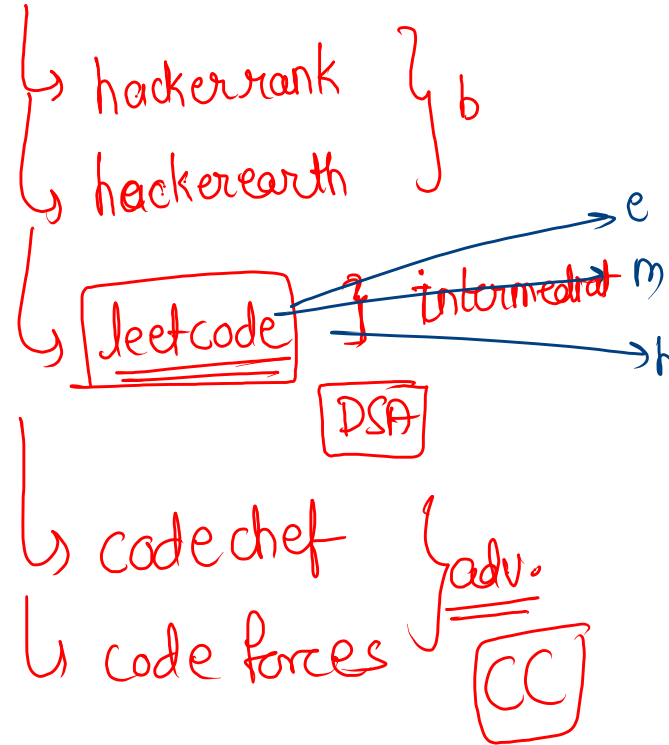
$n$   
 $2, \rightarrow n-1$

code

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int t = scn.nextInt();

    for (int i = 0; i < t; i++) {
        int n = scn.nextInt();
        boolean ans = checkPrime(n);
        if (ans == true) {
            System.out.println("Yes");
        } else {
            System.out.println("No");
        }
    }
}

public static boolean checkPrime(int num) {
    for (int i = 2; i <= num - 1; i++) {
        if (num % i == 0) {
            return false;
        }
    }
    return true;
}
```



# Divide n by 2 3 5 and tell steps

↑ ↑ ↑

steps

$$\begin{array}{r|l} 2 & 2472 \\ \hline 2 & 1236 \\ \hline 2 & 618 \\ \hline & 309 \end{array}$$

steps = 3

$$\begin{array}{r|l} 3 & 309 \\ \hline & 103 \end{array}$$

steps = 1

$$\begin{array}{r|l} & 103 \\ \hline & \end{array}$$

steps = 0

code

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int steps = scn.nextInt();

    while ( n % 2 == 0 ) {
        n = n / 2;
        steps += 2;
    }
    while ( n % 3 == 0 ) {
        n = n / 3;
        steps += 3;
    }
    while ( n % 5 == 0 ) {
        n = n / 5;
        steps += 5;
    }
    System.out.println(steps);
    System.out.println(n);
}
```