→ Today we have a doubt class (1-1.5hr)

$$\begin{array}{l} |1\,\underset{x}{0}| \rightarrow \\ 01 \rightarrow \\ 00 \rightarrow \\ 0 \end{array}$$

Tomm. we will have a regular class (2hr)

1) Subtask ✓   2) left & right shift   3) Indentation ✓

4) (Bit wise)   5) input().split ✓   6) while

7) Errors (NZEC, RE)   8) (Constraints) ✓   9) $\begin{array}{l}\star \\ \star \star \star \\ \star \star \star \star \star \\ \star \star \star \\ \star\end{array}\Big\} n=5$

10) dp   Time Complexity

$$2 \cdot (n - \text{row}) + 1$$

row 1   _ _ ☆

row 2   _ ☆ ☆ ☆

row 3   ☆ ☆ ☆ ☆ ☆

row 4   _ ☆ ☆ ☆

row 5   _ _ ☆

$n = 5$

$\leftarrow 2 \cdot (5-4) + 1$

$2 \cdot 1 = 3$

$2 \cdot (5-5) + 1$

①

$5 // 2$

$S \rightarrow ③$ $\leftarrow$

$\left(\dfrac{5}{2} + 1 \right)$ row

①   _ _ _ _ ☆

2.   _ _ ☆ ☆ ☆

3.   _ ☆ ☆ ☆ ☆ ☆

4.   ☆ ☆ ☆ ☆ ☆ ☆ ☆

5.   _ ☆ ☆ ☆ ☆ ☆

6   _ _ ☆ ☆ ☆

7   _ _ _ ☆

$\left(\dfrac{7}{2} + 1 \right)$ 4

$\longrightarrow 2 \cdot (7-5) + 1$

$2 \cdot (7-6) + 1$

row $- \dfrac{7}{2} - 1$

$6 - 3$

$2 - 3 - 1 - 1 \rightarrow 3$

T denotes no. of test cases

360 $\longrightarrow$ 90 9 m
$\downarrow$
90 as

code
{ } { }

correct or not

Serves

all these files are called
1 test file

multiple files of test cases

i/p

file 1 i/p
3 !
! ! !
! ! 2

file 2 i/b

file 3

file 4

file 5

file 6

y4
y4
no.

o/b

file 1 o/b

file o/b

file 1 i/p

T → 3

			8
3	9	1 1	4
	0	1 1	2

file 1 o/p
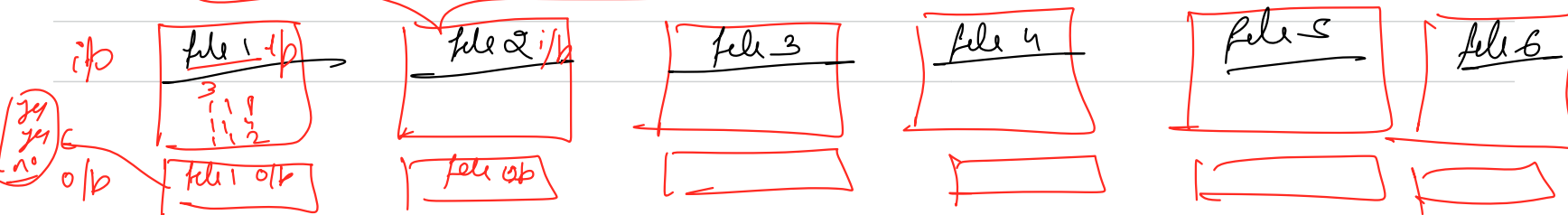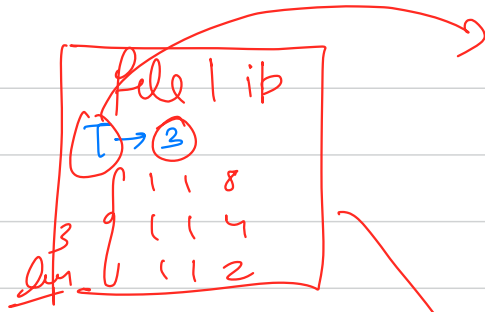
How many test case you get in

1 file

1 sec → 10^8 operations

Solve 1 file in 1 sec

Ques

Solver

File 1

$T \rightarrow \leq 10^9$

Subtask

File 2

$T \leq 10^5$

$Q \cdot D \leq 10^3$

Subtask 2

30 pts

file 3

$Ex \rightarrow N \rightarrow$ if it is prime or not

Subtask 1 $N \leq 10^4$ ✓

30 pts

$10^2 < 1 sec$

N iterate

$2 \longrightarrow N-1$

$< 1 sec$

Subtask 2 $N \leq 10^9$

70 pts

$\approx 10^9 < 1 sec$

$\sqrt{N}$ iteration

print I/O

NO

Syntax
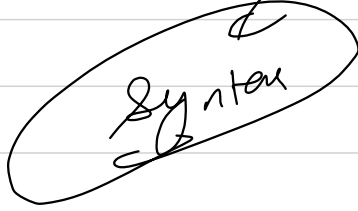
print (I/O)

1 $\longrightarrow$ Don't copy paste Python code

2 $\longrightarrow$ Try to indent properly in first go

2

$$361 = (101101001)$$

$x = 361$

takes binary of x $\longrightarrow$ $x >> 2$ (x right shift 2)

(101101001) shift to right $\longrightarrow$ 0101101001 shift to right

$$0 0 101101 0$$
$$\quad\quad 6\ 5\ 4\ 3\ 2\ 1\ 6$$

$$64 + 16 + 8 + 2$$
$$80 + 10 = 90$$

$361 = (101101001)$

$x = 361$

$x << 2 \quad (x \ left \ shift \ 2)$

(101101001) — $left \ shift$ → (011010010)

removes MSB ↗

MSB

$left \ shift$ → 110100100

msb gone

appended
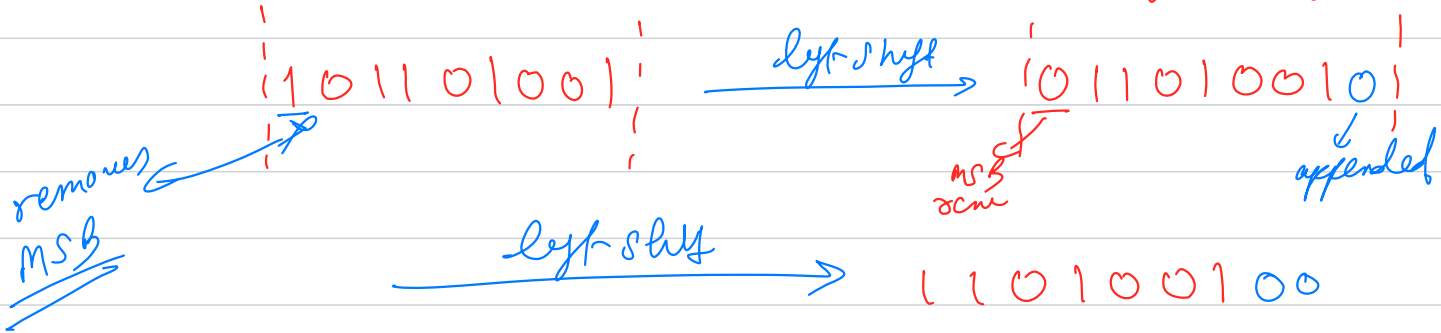
$1 \leq x < 3$

$0 \ 0 \ 0 \ 1 \longrightarrow 1 \ 0 \longrightarrow 1 \ 0 \ 0 \longrightarrow 1 \ 0 \ 0 \ 0$

2^3

```
3  i = 1
4
5  while i < 10:
6      print("value
7      i = i + 1
8
```

is this condition True?
if yes then go inside the block

NO

as soon as it reaches end of block of while it goes to line 5 again