

1)

7 7 2 7

7 7 7 7

7 7 7 7

7 7 7 7

i j i <= 4 j <= 4 s.o. print() s.o p()

1	1	1 <= 4 ✓	1 <= 4 ✓	✓	
	2		2 <= 4 ✓	✓	
	3		3 <= 4 ✓	✓	
	4		4 <= 4 ✓	✓	
	5	5 <= 4 ✗	5 <= 4 ✗	✗	✓

2	1	2 <= 4 ✓	1 <= 4 ✓	✓	
	2		2 <= 4 ✓	✓	
	3		3 <= 4 ✓	✓	
	4		4 <= 4 ✓	✓	
	5	5 <= 4 ✗	5 <= 4 ✗	✗	✓

3	1	3 <= 4 ✓	1 <= 4 ✓	✓	
	2		2 <= 4 ✓	✓	
	3		3 <= 4 ✓	✓	
	4		4 <= 4 ✓	✓	
	5	5 <= 4 ✗	5 <= 4 ✗	✗	✓

4	1	4 <= 4 ✓	1 <= 4 ✓	✓	
	2		2 <= 4 ✓	✓	
	3		3 <= 4 ✓	✓	
	4		4 <= 4 ✓	✓	
	5	5 <= 4 ✗	5 <= 4 ✗	✗	✓

5		5 <= 4 ✗	5 <= 4 ✗	✗	
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(2)

0 = = =

+ + + x

* * * *

= = = =

i	j	$i \leq 4$	$j \leq 4$	$is(i=1 i \leq 4)$ $SOP("=")$	else (+)
1	1	$1 \leq 4$	$1 \leq 4 \checkmark$	\checkmark	
	2		$2 \leq 4 \checkmark$	\checkmark	
	3		$3 \leq 4 \checkmark$	\checkmark	
	4		$4 \leq 4 \checkmark$	\checkmark	
	5		$5 \leq 4 \times$		\checkmark
2	1	$2 \leq 4$	$1 \leq 4 \checkmark$	\checkmark	
	2		$2 \leq 4 \checkmark$	\checkmark	
	3		$3 \leq 4 \checkmark$	\checkmark	
	4		$4 \leq 4 \checkmark$	\checkmark	
	5		$5 \leq 4 \times$	\times	\checkmark
3	1	$3 \leq 4$	$1 \leq 4 \checkmark$	\checkmark	
	2		$2 \leq 4 \checkmark$	\checkmark	
	3		$3 \leq 4 \checkmark$	\checkmark	
	4		$4 \leq 4 \checkmark$	\checkmark	
	5		$5 \leq 4 \times$	\times	\checkmark
4	1	$4 \leq 4$	$1 \leq 4 \checkmark$	\checkmark	
	2		$2 \leq 4 \checkmark$	\checkmark	
	3		$3 \leq 4 \checkmark$	\checkmark	
	4		$4 \leq 4 \checkmark$	\checkmark	
	5		$5 \leq 4 \times$	\times	\checkmark
5		$5 \leq 4 \times$			

1 2 3 4
 5 6 7 8
 9 10 11 12
 13 14 15 16

		$i < 5$	$j < 5$	S.O.Print temp	temp++ temp	Sop
1	j	$i < 5$	$j < 5$			
				✓	✓	
1	1	$1 < 5$	$1 < 5$	✓	✓	
			$2 < 5$	✓	✓	
			$3 < 5$	✓	✓	
			$4 < 5$	✓	✓	
			$5 < 5$ ✗			✓
2	1	$2 < 5$	$1 < 5$	✓	✓	
			$2 < 5$	✓	✓	
			$3 < 5$	✓	✓	
			$4 < 5$	✓	✓	
			$5 < 5$	✗		✓
3	1	$3 < 5$	$1 < 5$	✓	✓	
			$2 < 5$	✓	✓	
			$3 < 5$	✓	✓	
			$4 < 5$	✓	✓	
			$5 < 5$	✗		✓
4	1	$4 < 5$	$1 < 5$	✓	✓	
			$2 < 5$	✓	✓	
			$3 < 5$	✓	✓	
			$4 < 5$	✓	✓	
			$5 < 5$	✗		✗
5	1	$5 < 5$ ✗				

1 4 9
16 25 36
49 64 81

i	j	$i \leq 3$	$j \leq 3$	SOP	temp++ SOP
1	1	$1 \leq 3$	$1 \leq 3 \checkmark$	2	\checkmark
			$2 \leq 3 \checkmark$	2	\checkmark
			$3 \leq 3 \checkmark$	2	\checkmark
			$4 \leq 3 \times$		2
2	1	$2 \leq 3$	$1 \leq 3 \checkmark$	2	\checkmark
			$2 \leq 3 \checkmark$	\checkmark	\checkmark
			$3 \leq 3 \checkmark$	\checkmark	\checkmark
			$4 \leq 3 \times$		\checkmark
3	1	$3 \leq 3$	$1 \leq 3 \checkmark$	\checkmark	\checkmark
			$2 \leq 3 \checkmark$	\checkmark	\checkmark
			$3 \leq 3 \checkmark$	\checkmark	\checkmark
			$4 \leq 3 \times$		\checkmark
4	1	$4 \leq 3 \times$			

0 3 8
15 24 35
48 63 80

SOP						
i	j	$i \leq 3$	$j \leq 3$	$temp * temp - 1$	temp++	SOP
1	1	$1 \leq 3$	$1 \leq 3 \checkmark$	\checkmark		\checkmark
			$2 \leq 3 \checkmark$	\checkmark		\checkmark
			$3 \leq 3 \checkmark$	\checkmark		\checkmark
			$4 \leq 3 \times$			\checkmark
2	1	$2 \leq 3$	$1 \leq 3 \checkmark$	\checkmark		
			$2 \leq 3 \checkmark$	\checkmark		\checkmark
			$3 \leq 3 \checkmark$	\checkmark		\checkmark
			$4 \leq 3 \times$			\checkmark
3	1	$3 \leq 3$	$1 \leq 3 \checkmark$	\checkmark		\checkmark
			$2 \leq 3 \checkmark$	\checkmark		\checkmark
			$3 \leq 3 \checkmark$	\checkmark		\checkmark
			$4 \leq 3 \times$			\checkmark
4	1	$4 \leq 3 \times$				\checkmark