

## SUMMARY: LAB\_3

Maximum value of variable **j** (inner for-loop)

	i					
row_1	1	*	*	*	*	*
row_2		*	*	*	*	*
row_3			*	*	*	*
row_4				*	*	*
row_5					*	*
row_6						*

No. of *
6
5
4
3
2
1

$$1 + 6 = 7$$

$$2 + 5 = 7 = 6 + 1 \quad \longrightarrow \quad \textcolor{red}{i} + \textcolor{green}{j} = \textcolor{blue}{n} + 1$$

$$\mathbf{L}_{\textcolor{brown}{j}} = \textcolor{blue}{n} + 1 - i$$

condition for inner for loop:  $j \leq n + 1 - i$

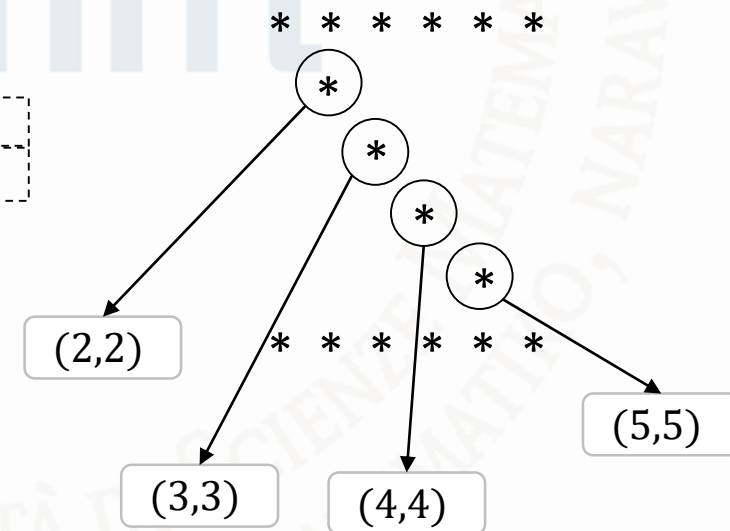
$$n = 6$$

- i
- 1
- 2
- 3
- 4
- 5
- 6

	j	j	j	j	j	j
	=	=	=	=	=	=
	1	2	3	4	5	6
i = 1	*	*	*	*	*	*
i = 2	*					*
i = 3	*					*
i = 4	*					*
i = 5	*					*
i = 6	*	*	*	*	*	*

Diagram illustrating the iterative step of the Floyd-Warshall algorithm. The matrix shows distances between nodes 1 through 6. The current iteration is for  $k=5$ , indicated by a dashed box around columns 1-5 and a solid box around column 6. The matrix shows distances between nodes 1-6. The right side shows the update rule:  $i = 1$ ,  $i = 2$ ,  $i = 3$ ,  $i = 4$ ,  $i = 5$ ,  $i = 6$ .

$$i + j = n + 1$$



## 1.inner FOR:

 $1 \leq j < i$ 

2.inner FOR:

 $i \leq k \leq n$ 

*if-statements*