2-Dimensional arrays in C & C++

Talk to a Teacher
http://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

Ritwik Joshi
IIT Bombay

4 May 2012

Learning Objectives

- ▶ What is a 2D array

Learning Objectives

- What is a 2D array
- Through an example

System Requirements

System Requirements

- ► **Ubuntu OS v. 11.10**

System Requirements

- Ubuntu OS v. 11.10
- gcc and g++ Compiler version 4.6.1 on Ubuntu

Introduction

- 2D arrays are stored in a row column matrix

Introduction

- **2D arrays are stored in a row column matrix**
- The left index indicates the row

Introduction

- 2D arrays are stored in a row column matrix
- The left index indicates the row
- The right index indicates the column

Introduction

- 2D arrays are stored in a row column matrix

- The left index indicates the row

- The right index indicates the column

- Starting index of a matrix or array in C and C++ is always 0

2D matrix

2D matrix

	0	1	2	3
0	1	2	3	4

2D matrix

	0	1	2	3
0	1	2	3	4
1	5	6	7	8

2D matrix

	0	1	2	3
0	1	2	3	4
1	5	6	7	8
2	9	10	11	12

Syntax

Syntax

- data_type arr_name[row] [col];

Syntax

- data_type arr_name[row] [col];
  - eg. int num[2] [3];

Summary

- To add elements in a 2D array.

Summary

- To add elements in a 2D array.
- To print 2D array

Summary

- To add elements in a 2D array.
- To print 2D array
- To calculate the sum of 2D array

Assignment

- Write a program that takes two 2D arrays as input from the user

Assignment

- Write a program that takes two 2D arrays as input from the user
- Subtarct them and find the result

About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org /What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to contact@spoken-tutorial.org

Acknowledgements

- Spoken Tutorial Project is a part of the Talk to a Teacher project

- It is supported by the National Mission on Education through ICT, MHRD, Government of India

- More information on this Mission is available at:
  http://spoken-tutorial.org /NMEICT-Intro