

Data Structures



CODE
FOR THINGS

Overview of module

Introduction to Data Structures

Makefiles

Time Complexity

Linked List

Stack

Queue

Searching Techniques

Sorting Techniques

Tree

Hashing



Data Structure

Introduction

17 days

25 Assignments

2 Projects

Introduction to Data Structures

Data Structure

Introduction



CODE FOR THINGS

Introduction



What?

Why?

Where?

What?



What?

Case 1: Mr A Lazy



What?

Case 1: Mr A Lazy



Case 2: Mr B Active



What?

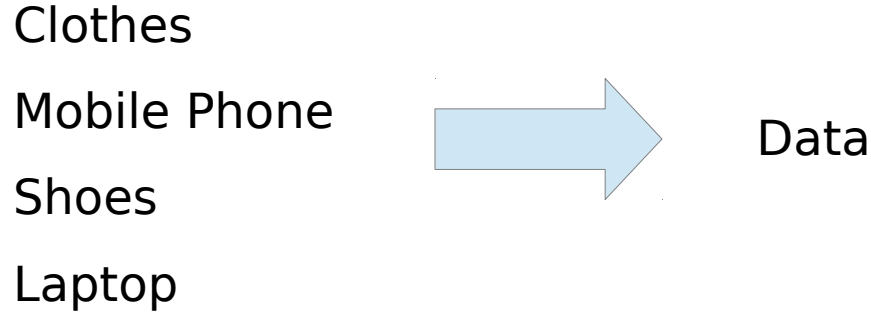
Clothes

Mobile Phone

Shoes

Laptop

What?



Data Structures are specialized means of organizing and storing data in computers in such a way that we can perform operations on it in more efficiently.

Data Structure -Introduction

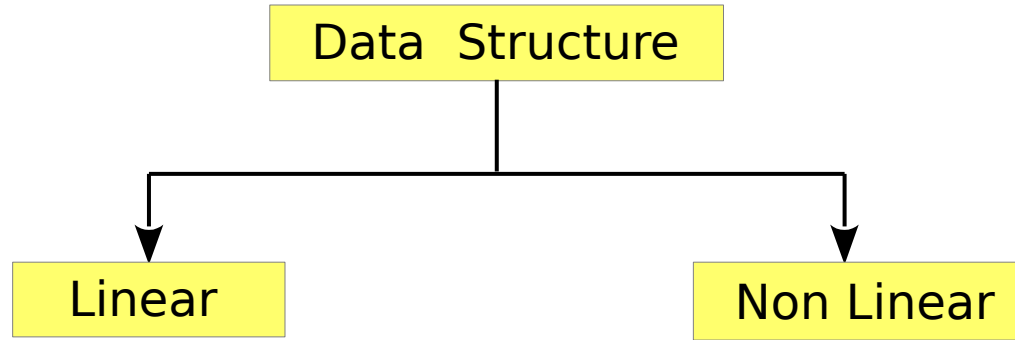
Types

Data Structure



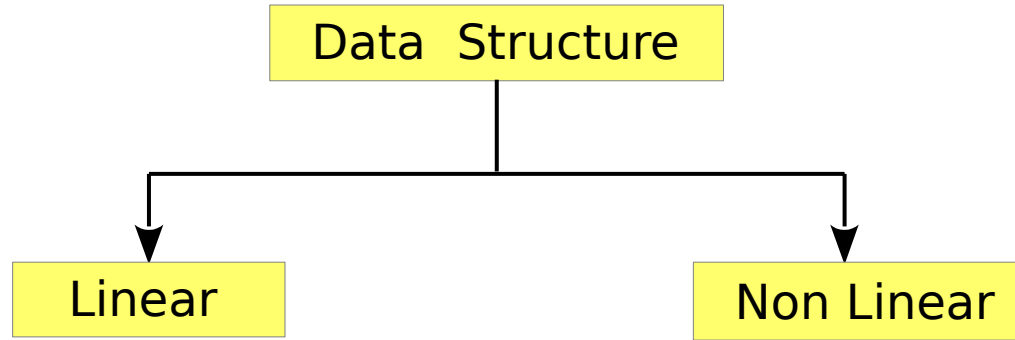
Data Structure -Introduction

Types



Data Structure -Introduction

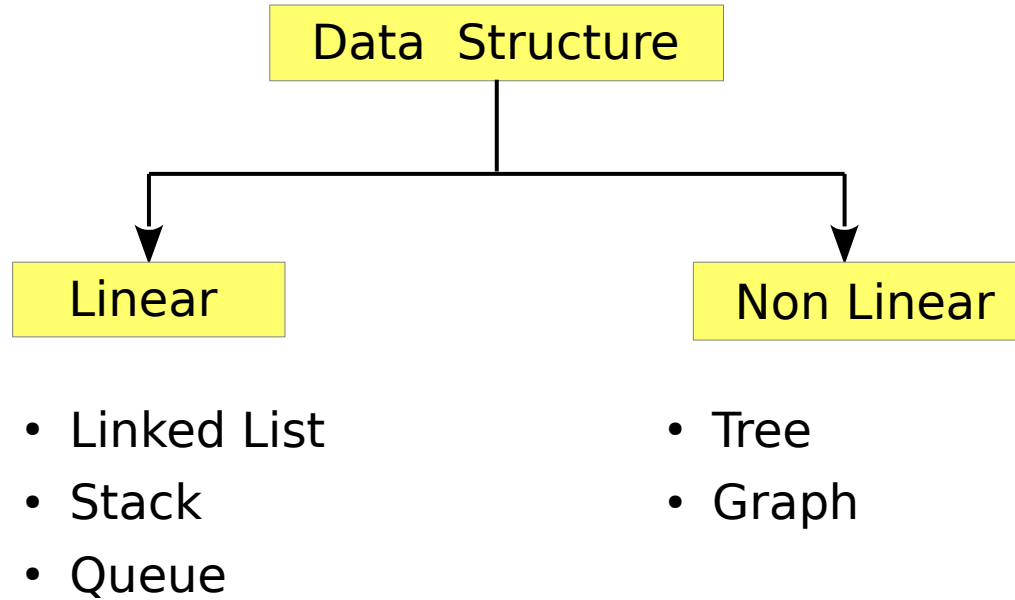
Types



- Linked List
- Stack
- Queue

Data Structure -Introduction

Types



Why Data Structures?

Why?



Data Structure -Introduction

Why?



Dictionary



Metro Gates

Data Structure -Introduction

Why?



Dictionary

About | Jobs

Search Images | Sign in

Google

Q

Google Assistant

Google Search

I'm Feeling Lucky

Advertising | Business | How Search works

Privacy | Terms | Settings

Google



Metro Gates



Why?

- Each Data Structure allows data to be stored in specific manner
- It allows efficient data search and retrieval
- It allows to manage large amount of data such as large database.

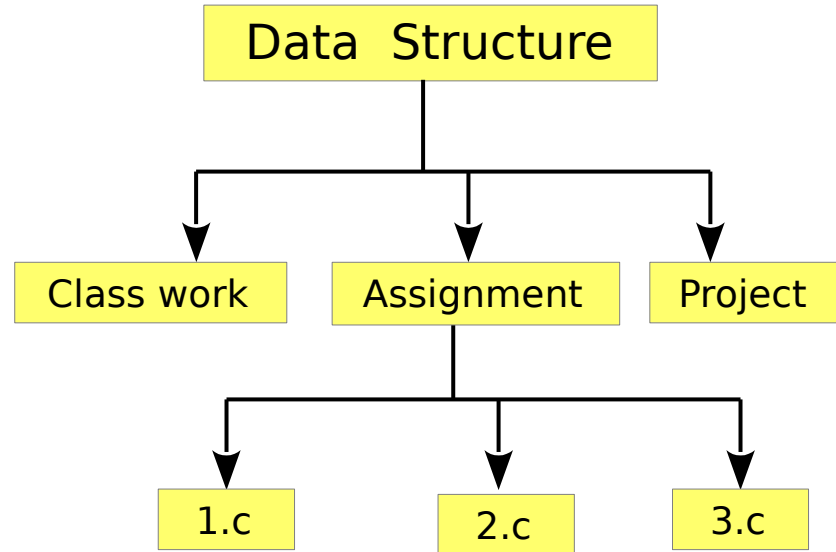
Where?

- Folders in File system



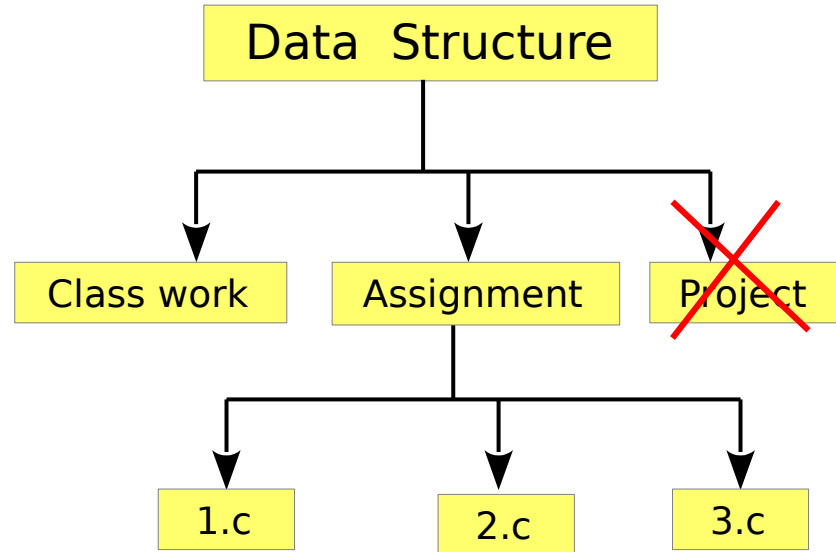
Where?

- Folders in File system



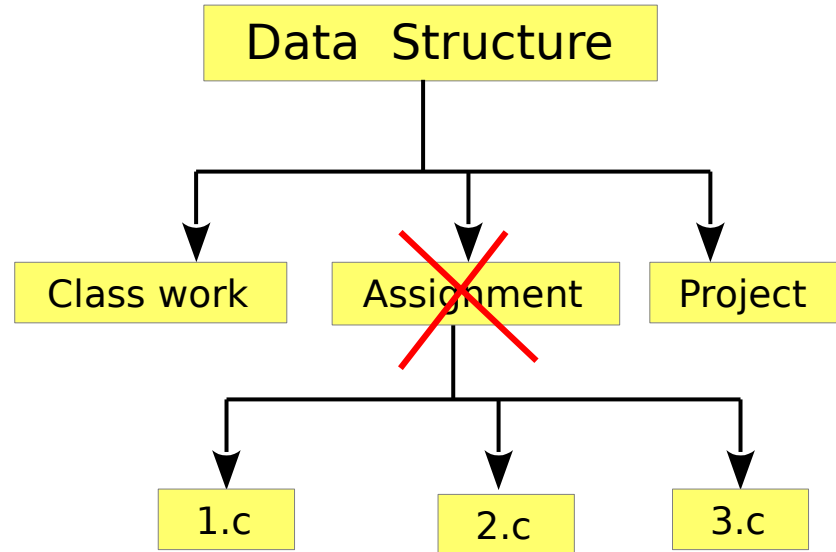
Where?

- Folders in File system



Where?

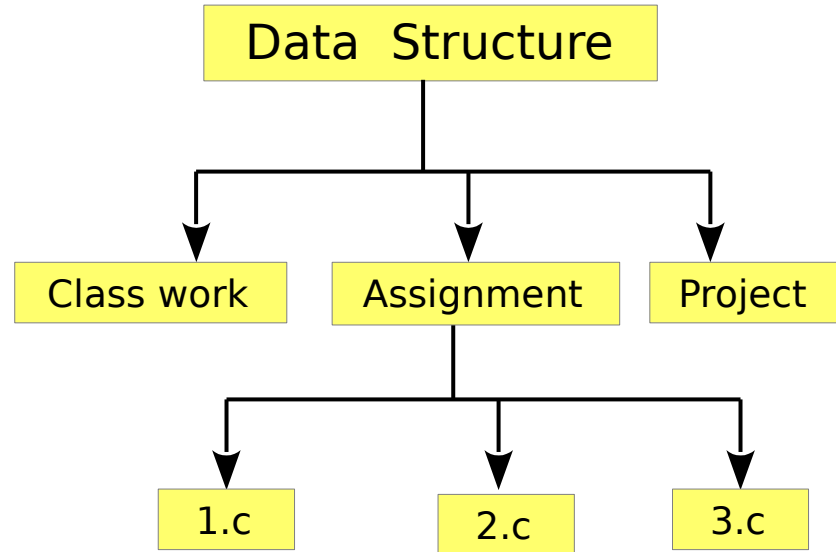
- Folders in File system



Where?

- Folders in File system

Tree



Where?

- Image Viewer



Photo -1

Where?

- Image Viewer



Photo -1



Photo -2

Where?

- Image Viewer



Photo -1



Photo -2



Photo -3

Where?

- Image Viewer



Photo -1

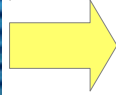


Photo -2

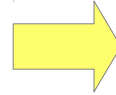


Photo -3

Where?

- Image Viewer



Photo -1

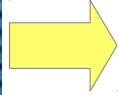


Photo -2

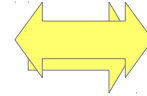


Photo -3

Where?

- Image Viewer



Photo -1

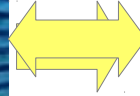


Photo -2

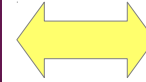


Photo -3

Where?

- Image Viewer

Double Linked list



Photo -1

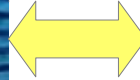


Photo -2

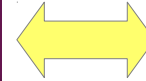


Photo -3

Where?

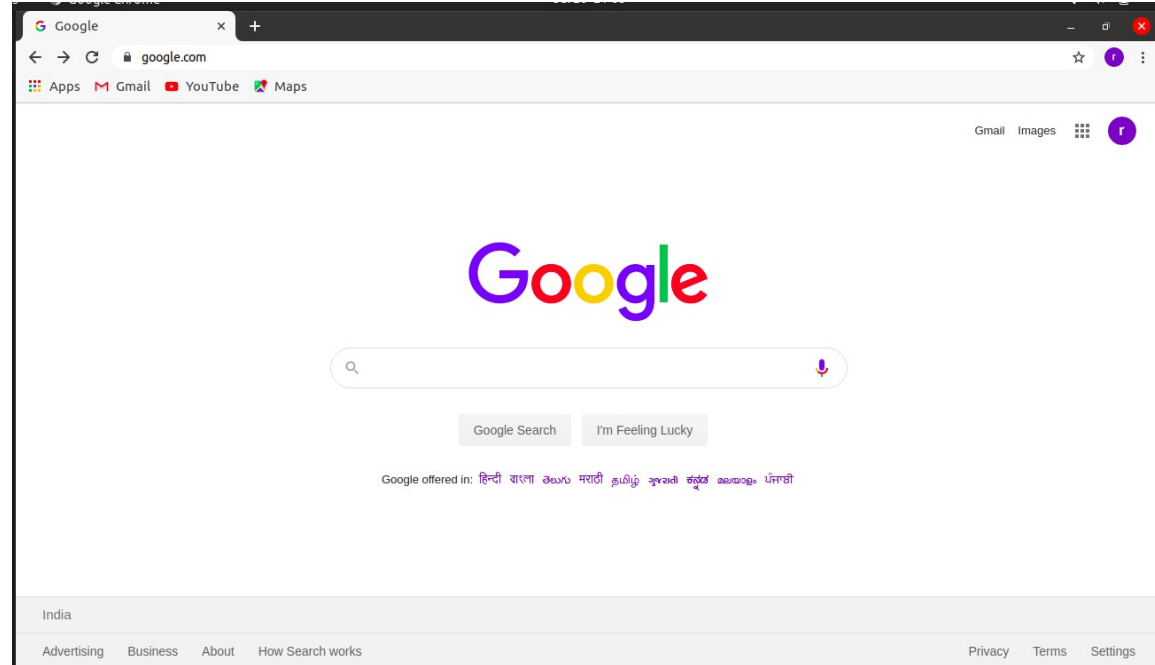
- Browser



Data Structure -Introduction

Where?

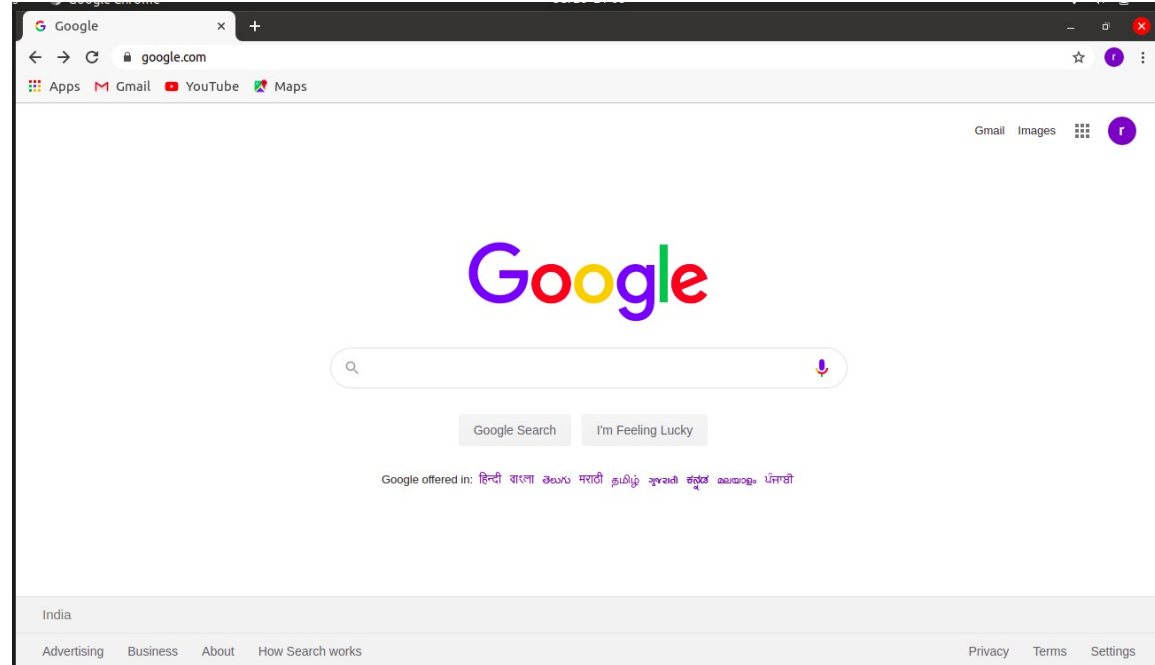
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Data Structure -Introduction

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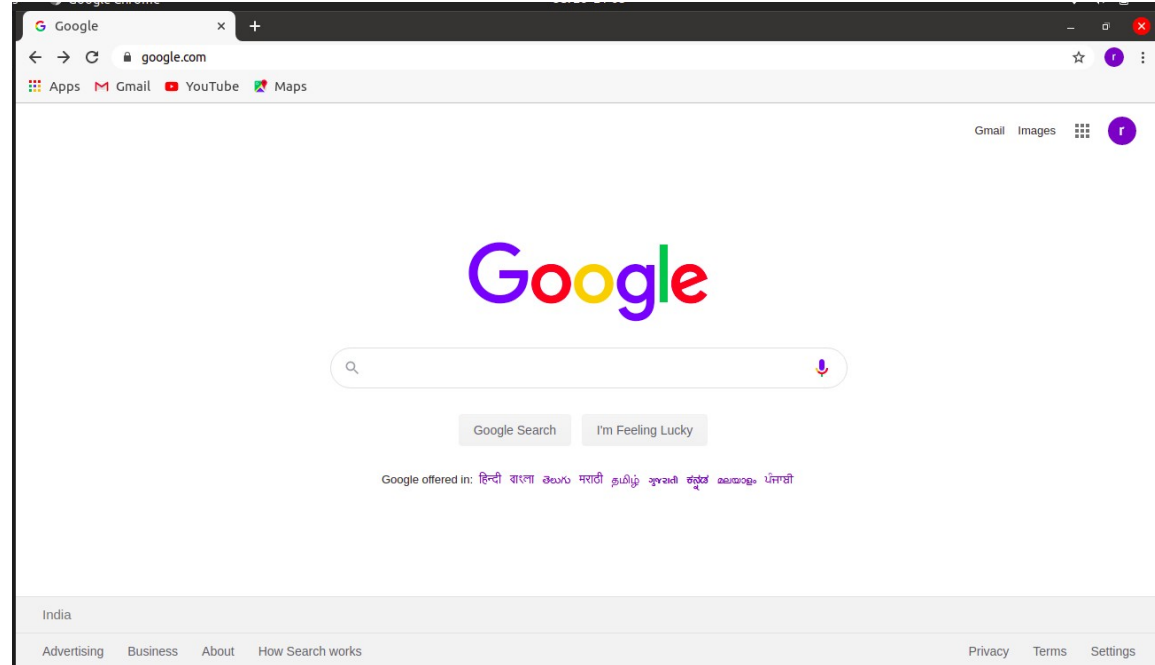
- Browser



Data Structure -Introduction

Where?

- Browser



Data Structure -Introduction

Where?

- Browser

www.emertxe.com

www.google.com

The screenshot shows the Emertxe website homepage. The browser's address bar displays 'emertxe.com'. The website features a navigation menu with links for Courses, Placements, Course Materials, News, Blog, Careers, About Us, and Contact Us. A prominent banner highlights '430+ PLACEMENT DRIVES IN 2019' and includes a 'Register Now!' button. Below the banner, the text 'Job Oriented Online Embedded Systems & IoT Courses - Click Here to Register' is visible. The main content area is titled 'Embedded Systems Courses & IoT Courses with Placements' and describes Emertxe as India's pioneer institute for Embedded Systems Courses, Linux, and IoT training. It lists two course options: 'Embedded systems course Online – For Freshers' and 'Online Embedded IoT Courses – For Freshers and Professionals'. On the right side, there is a section for 'Placement companies' featuring 'Qualcomm' with a 'SALARY PACKAGE : 19.5 L' and a 'What our students say?' section. A WhatsApp chat button is located in the bottom right corner.

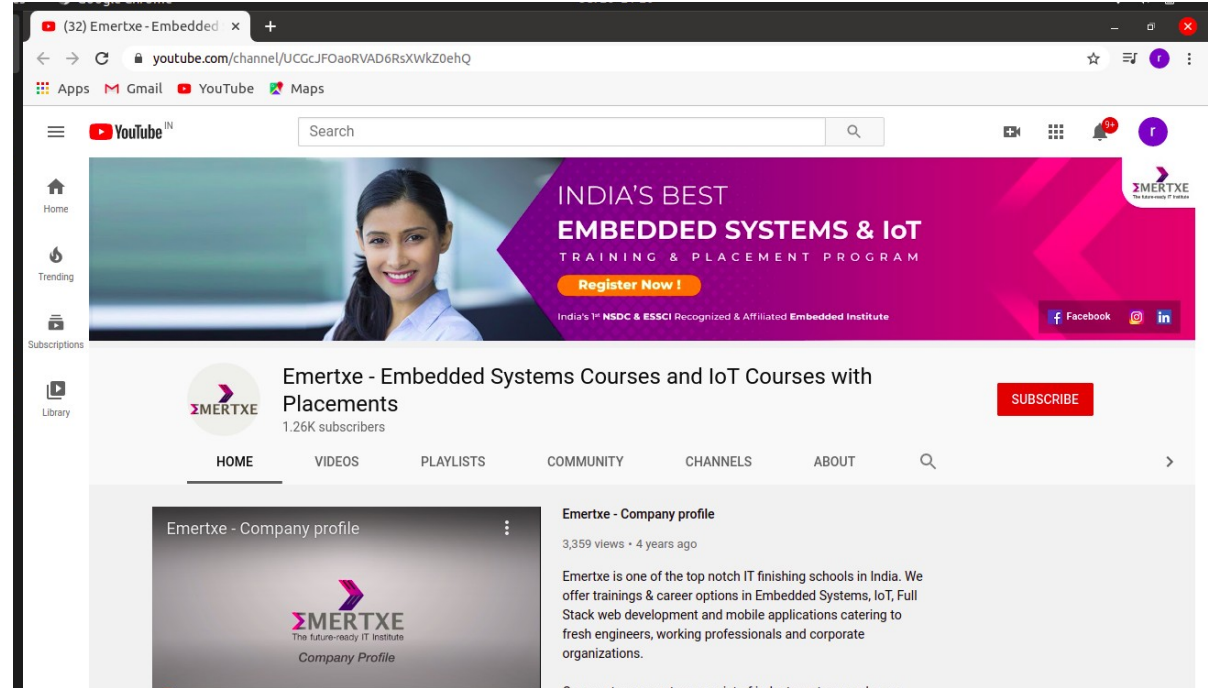


Data Structure -Introduction

Where?

- Browser

www.youtube.com/channel/U
www.emertxe.com
www.google.com

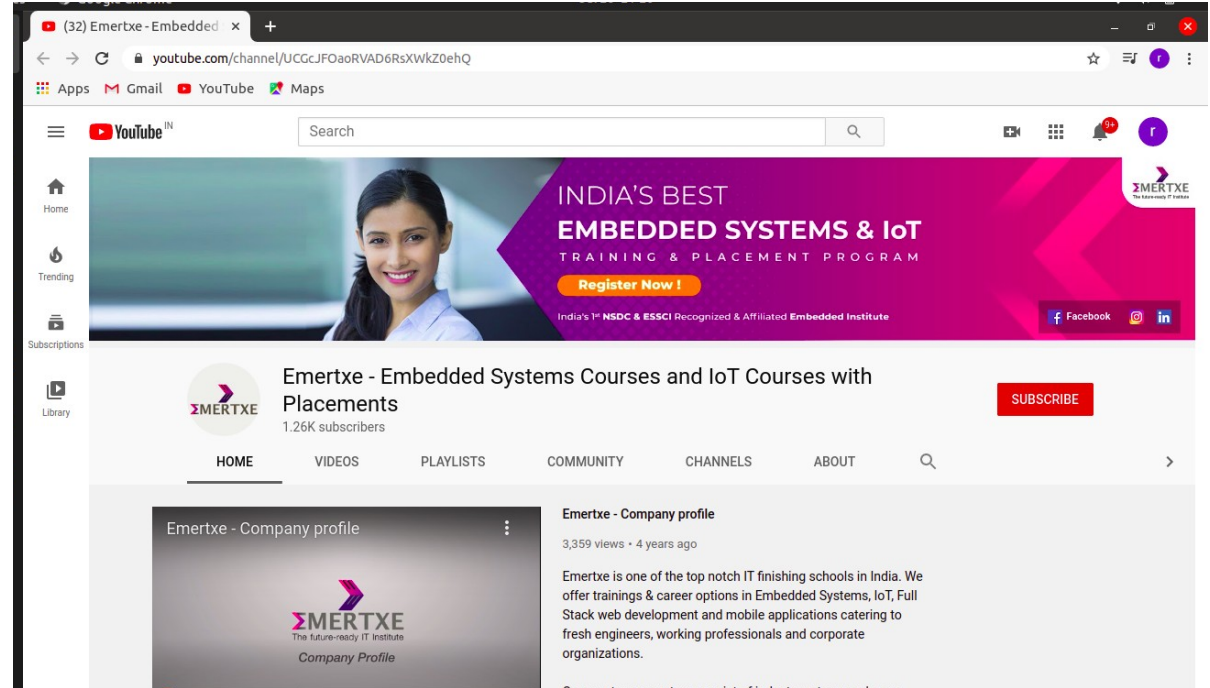


Data Structure -Introduction

Where?

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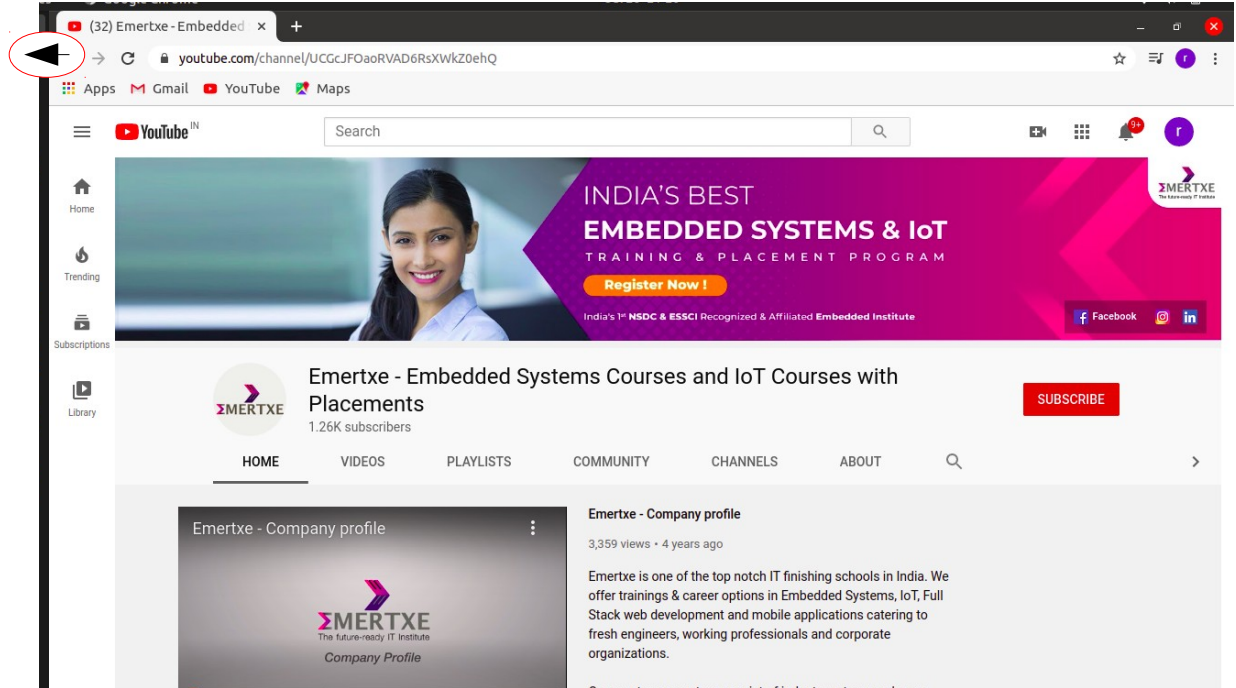


Data Structure -Introduction

Where?

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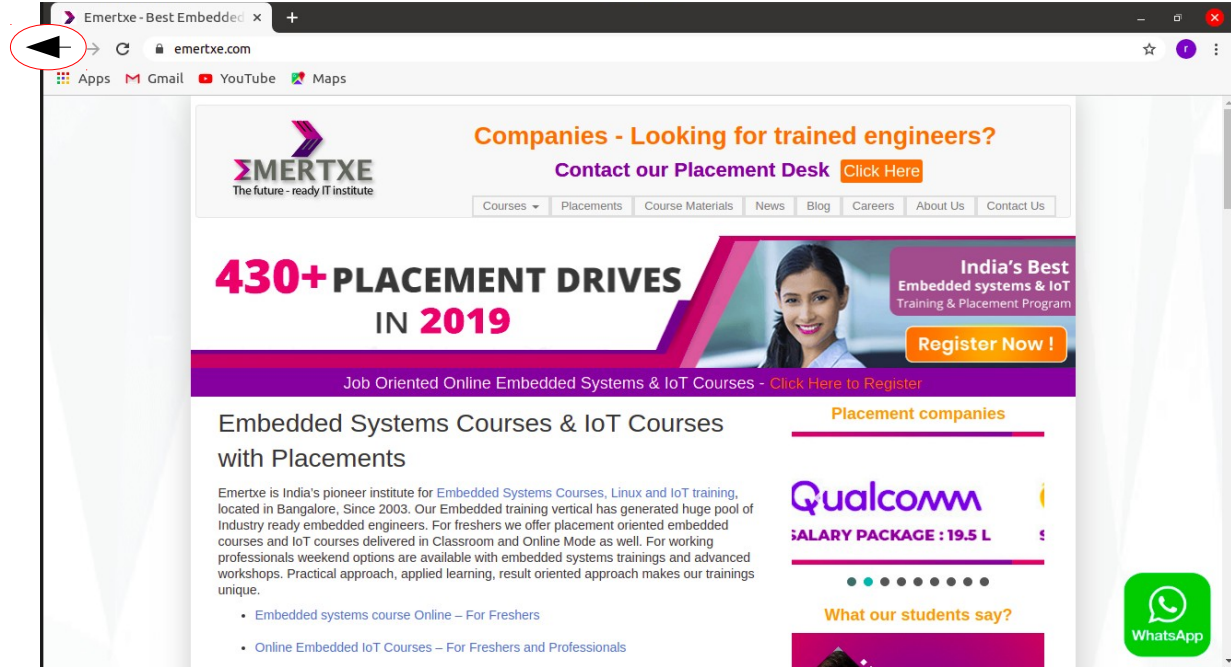
Data Structure -Introduction

Where?

- Browser

www.emertxe.com

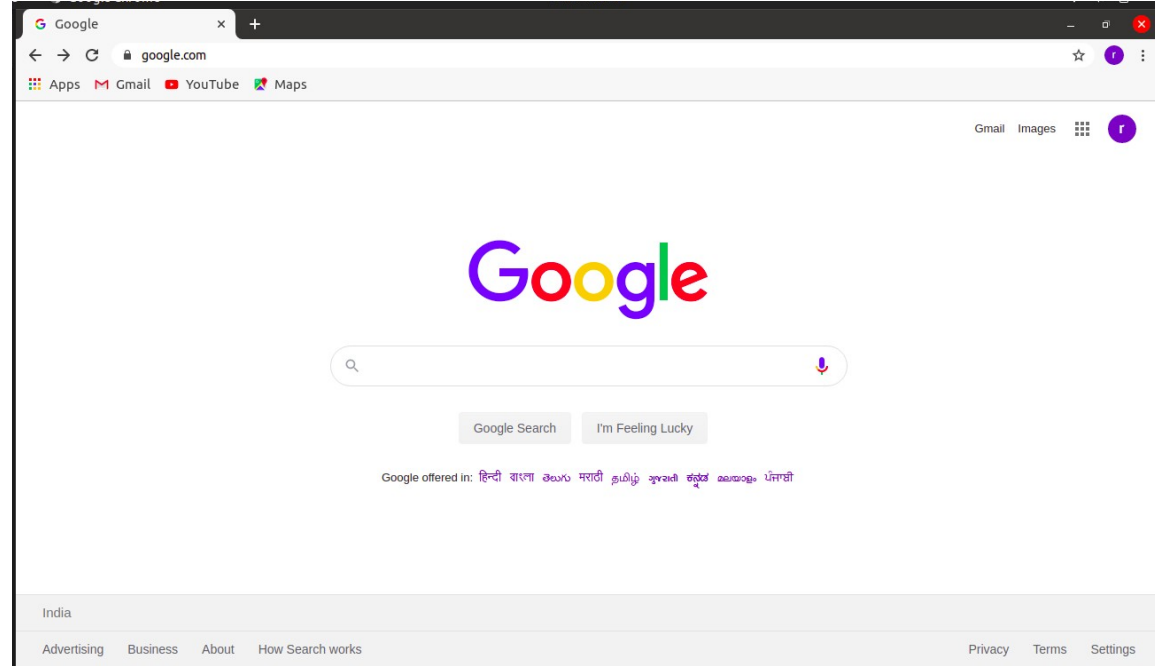
www.google.com



Data Structure -Introduction

Where?

- Browser



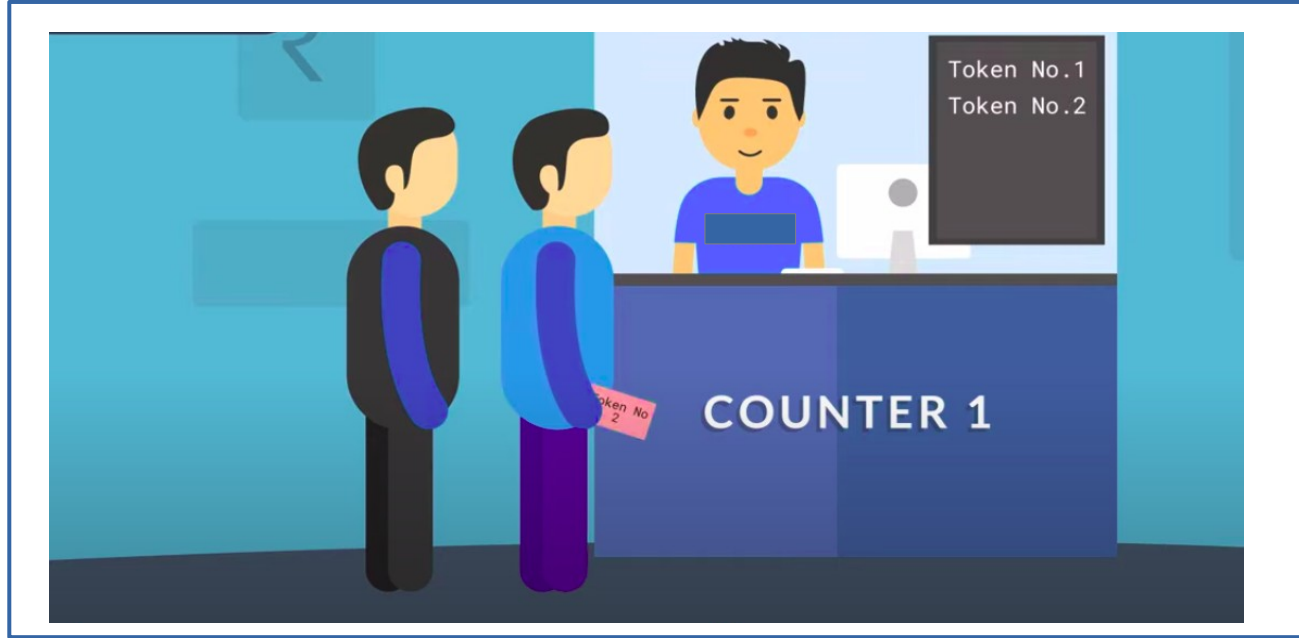
Where?

- Queue



Where?

- Queue



Where?

- Queue



Data Structure -Introduction

Where?

- Queue

FIFO



Where?

- **Applications**
 - CPU Scheduling
 - Function
 - Expression Evaluation
 - Undo +Redo

Makefile