



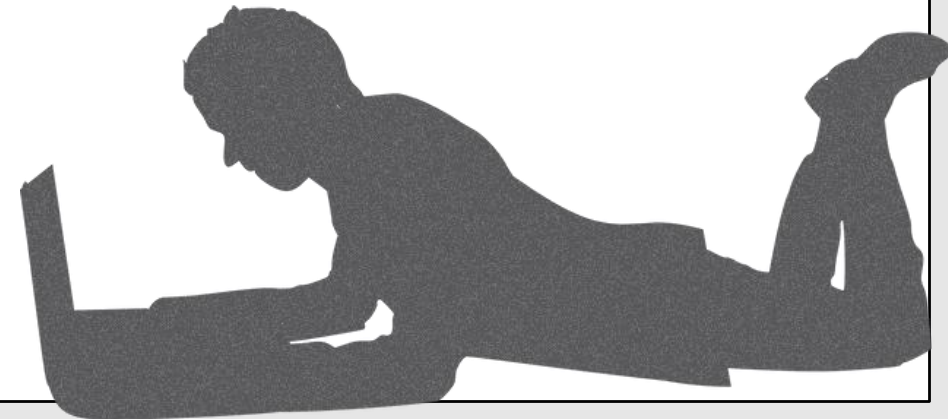
ONLINE TEACHING WORKSHOP SERIES

Take-home assignments, and Online discussions using Slack

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Remote learning

❖ IC – CS F111

❖ Computer **Programming**

❖ 500+ enrolment

✓ Lectures go online

✓ Doubt clearance via emails

• Online test!!

• Lab sessions!!



Online test to take-home assignment

- CS F111 Online test

- Take-home assignment



Online test to take-home assignment

- Develop a KBC game using C
- Develop a text editor
- Grocery home delivery portal for lockdown
- Railway Reservation system for Migrant Laborers
- ...

```
Welcome to the Railway Reservation System!
```

```
-----  
Main Menu  
-----
```

- ```
1. Display List of All Trains
2. Enquiry About Train
3. Book Ticket
4. Cancel Ticket
5. Exit
```

```
Select your option (1-5): █
```

Even questions assigned to even-numbered practical sections,  
odd questions to odd-numbered practical sections

```
TEXT EDITOR
```

```
FOR CREATING A NEW FILE: PRESS 1
FOR EDITING A FILE: PRESS 2
FOR SAVING A FILE AS ANOTHER FILE WITH A DIFFERENT NAME: PRESS 3
FOR SEARCHING A WORD OR A PATTERN IN A FILE: PRESS 4
FOR CHECKING IF TWO FILES ARE EXACTLY SAME: PRESS 5
FOR DELETING A FILE: PRESS 6
Select an option: █
```

```
***** INDIAN RAILWAYS-| SAFETY | SECURITY | PUNCTUALITY |*****
***** NEXT GENERATION E-TICKETING SYSTEM *****
```

```
ALERT: COVID 19 GUIDELINES
```

```
* FACE MASK MADETORY
* MAINTAIN SOCIAL DISTANCING AND WASH HANDS FREQUENTLY.
* INDIAN RAILWAY HAS STARTED SPECIAL TRAINS FROM DELHI.
* IT IS ADVISABLE TO DOWNLOAD AAROGYA SETU APPLICATION ONYOUR MOBILE PHONE, BEFORE
 COMMENCING YOUR RAIL JOURNEY.
* CATERING SERVICES NOT AVAILABLE AND CATERING CHARGES NOT INCLUDED IN THE FARE.
* NO BLANKET AND LINEN SHALL BE PROVIDED IN THE TRAIN.
* KINDLY NOTE THAT ALL PASSENGERS HAVE TO ADHERE TO HEALTH PROTOCOLS AS PRESCRIBED BY THE
 ARRIVAL STATE/UNION TERRITORY. VISIT STATE GOVERNMENT WEBSITES TO ASCERTAIN THE SAME.
```

```
* BOOK A TICKET PRESS 1
* CANCEL A TICKET PRESS 2
* VIEW THE TRAIN CHART PRESS 3
* EXIT PRESS 4
```

```
* ENTER YOUR CHOICE_█
```

# Online test to take-home assignment

## • **The Experience:**

- Students worked in groups and enjoyed working on close-to-real-world problems
- They went much beyond the course curriculum and had a better learning experience

## • **The Challenges:**

- Most students scored high – grading becomes a challenge
- Plagiarism check non-trivial for a large class

# Challenges in remote labs

- CS labs are, inherently, coding based.
- Instructors/TAs typically reach out to students in the lab, give feedback on code, help in debugging. Peer discussions encouraged.
- Not easy for students to express code-based doubts over video.
- Many times, instructors require time to debug student's code. Can't do that easily over a video.



# Solutions?

- Students run their C code wherever they want.
- Create a lab-like scenario where students can interact with Instructor and TAs as well as among themselves.
- Students should be able to share code, ask for help, and offer help as well [anytime].
- A chat- and/or video-based discussion should be made possible, as and when required.



**ENTER : SLACK**

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CF

CS F111

pratik.narang

H

- Threads
- Mentions & reactions
- Drafts
- People & user groups
- Apps
- File browser
- Show less

Channels

- # general
- # labs
- # random
- lab-section-1
- lab-section-6

Direct messages

- Slackbot
- pratik.narang (you)
- Bhavesh Chand
- Cyril Benny
- Grim Reaper
- Harpinder
- Neeraj Kumar Tiwari, P Hema...
- Rajesh Kumar
- Sadhana Jha
- Tanish Mittal
- VIJAY KUMARI
- Invite people

lab-section-1

75 | 1 | Add a topic

Monday, April 13th 11:00 AM  
Tip: Try Ctrl F to search this channel

Vippul Jangira 8:58 AM

```
void function(char **ptr)
{
 char *ptr1;
 ptr1 = (ptr += sizeof(int))[-2];
 printf("%s\n", ptr1);
}
```

Sir, how does the 3rd statement work

pratik.narang 9:00 AM

ptr += sizeof(int) would increment ptr by sizeof int.

since ptr is char pointer, incrementing by size of int would increment it by 4

pratik.narang 9:16 AM

@Vippul Jangira, can you share a complete code snippet  
ptr being char\*\*, its increments will happen in terms of char \*  
i.e., 4 char\* positions in the above case

Harpinder 9:20 AM

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
 char **ptr;
 ptr = (char**) malloc(sizeof(char*) * 5);
 ptr[0] = "hi_a";
 ptr[1] = "hi_b";
 ptr[2] = "hi_c";
 ptr[3] = "hi_d";
 ptr[4] = "hi_e";

 printf("%s\n", *ptr);
 char *ptr1;
 ptr1 = (ptr += sizeof(int))[-2];
 printf("%s\n", ptr1);
}
```

Message lab-section-1

Rich text editor toolbar: Bold, Italic, Underline, Code, Link, List, etc.

Aa @



**F20190750** 8:55 AM

In this code why are we using \* to access the address? arr is itself pointing to the address of the first element of the array. And we use \* when we want to dereference the value stored at the address pointed by the pointer.

IMG\_20200415\_085128.jpg ▾

```
#include <stdio.h>
void main(){
 int arr[2][2] = {{1, 2}, {5, 6}};
 printf("\n (arr+0)+0 = %p",*arr);
 printf("\n (arr+0)+1 = %p",*(arr+0)+1);
 printf("\n (arr+1)+0 = %p",*(arr+1)+0);
 printf("\n (arr+1)+1 = %p",*(arr+1)+1);
}
```

|             |                |
|-------------|----------------|
| (arr+0)+0 = | 0x7ffe2b2bffb0 |
| (arr+0)+1 = | 0x7ffe2b2bffb4 |
| (arr+1)+0 = | 0x7ffe2b2bffb8 |
| (arr+1)+1 = | 0x7ffe2b2bffbc |



**pratik.narang** 9:21 AM

lets try a small audio/video call with whoever is currently online... i and @Harpinder a over there



**F20190681** 9:21 AM

Ok sir



**pratik.narang** 9:21 AM

@Neeraj Kumar Tiwari...

too



**saransh Jhunjhunwala** 9:21 AM

Okay sir



**Zoom APP** 9:21 AM

Call ▾

Zoom meeting started by pratik.narang  
Ended at 9:22 AM - Lasted 1 minute

Meeting ID: 917-139-153



**pratik.narang** 8:43 AM

share some more details... or a code which is not clear... or at least a relevant slide



**F20190750** 8:48 AM

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```
char city[5] = "madan";
char *cityptr[4] = {"Chennai", "Kolkata", "Mumbai", "New Delhi"};
// *cityptr[4] becomes a 2-D Array
// while city[5] remains a 1-D Array
// while we print
printf("%s", city);
```

Wednesday, June 3rd ▾



**Vippul Jangira** 12:31 PM

When I'm converting char to int it's getting converted to its ASCII code

Is there any way to avoid that



**Pulkit Gupta** 12:32 PM

You can subtract it by '0'



**Vippul Jangira** 12:40 PM

Ok lemme see

Not working



**F20190745** 12:45 PM

Try subtracting 48

# Online discussions using Slack

## • **The Experience:**

- Online discussions encouraged students to have continued participation in lab-based exercises.
- Students could ask doubts anytime, beyond the lab hours as well.
- The Slack-based platform also enabled peer discussion

## • **The Challenges:**

- Student participation during on-campus labs was high. Remote participation was low.
- Difficult to conduct evaluative labs

*THANK YOU!*

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