



**A**

**Report on**

**Student Workshop on**

**“Artificial Intelligence & Machine Learning”**

**19th -23rd April 2021**

**Organized by**

**Department of Computer Science & Engg. and IT**  
**Swami Keshvanand Institute of Technology,**  
**Management & Gramothan, Jaipur**

**Conducted By TCS**

**Submitted by:**

Nidhi Srivastav

Pankaj Jadwal

Department of CSE

Dolly Mittal

Shalini Singhal

Department of IT

## INDEX

1. About SKIT.....	3
2. Approval Letter of The Workshop .....	5
3. Committees for The Workshop.....	7
4. Objective of The Workshop.....	8
5. Content of The Workshop.....	8
6. Expert Details.....	9
7. Workshop Schedule.....	10
8. Workshop Brochure.....	11
9. Glimpses of Inaugration Ceremony.....	12
10. News of Workshop.....	14
11. Daywise Execution of Workshop.....	17
12. Sample Copy of Participant's Certificate.....	30
13. List of Participants who received certificate.....	31

## **1. About SKIT:-**

Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT), inspired from the learnings of Swami Keshvanand, was established in the year 2000 by Technocrats and Managers Society for Advanced Learning. Today, the Institute is recognized as one of the centers of academic excellence in Northern India. The Institute is affiliated to Rajasthan Technical University, Kota for offering Ph. D., Postgraduate and Graduate Courses in Engineering and Management.

Located in the Pink City Jaipur, which is a blend of traditional history and modern outlook, SKIT is putting in efforts for making industry ready engineers and managers through effective Industry –Institute Interface. Apart from University curriculum, SKIT also pursues activities for research and development in various fields.

The green landscaping, aesthetic elegance of arches and the vibrant pursuit of knowledge by the young aspirants make the environment serene, pleasant and dynamic.

Students joining the institute share the box full of opportunities for professional and personal development through an environment of practical orientation, industrial interaction and student led activities which help the students to develop good communication skills, integrated personality and greater competitive spirit.

Swami Keshvanand, an orphan, illiterate, nomadic man who never received formal education, was the founder of more than 300 schools,

50 hostels and innumerable libraries, social service centers and museums. Swami Keshvanand had a deep understanding of the rural society of the desert region. He had explained the peculiarities of the desert region, identified the problems and suggested appropriate and logical solutions. It was Swami Keshvanand's

lifelong endeavour to eradicate social evils like untouchability, child marriage, indebtedness, poverty, backwardness, alcohol abuse, moral dissipation etc.

### **Vision**

To promote higher learning in advanced technology and industrial research to make our country a global player

### **Mission**

To promote quality education, training and research in field of Engineering by establishing effective interface with industry and to encourage faculty to undertake industry sponsored projects for students.

### **Quality Policy**

We are committed to ‘achievement of quality’ as an integral part of our institutional policy by continuous self-evaluation and striving to improve ourselves.

Institute would pursue quality in

- All its endeavours like admissions, teaching- learning processes, examinations, extra and co-curricular activities, industry institution interaction, research & development, continuing education, and consultancy.
- Functional areas like teaching departments, Training & Placement Cell, library, administrative office, accounts office, hostels, canteen, security services, transport, maintenance section and all other services.”

## 2. Approval Letter of the Workshop

6/17/2021

Fwd: Credit course AI - nidhi03.srivastav@gmail.com - Gmail

----- Forwarded message -----

From: **Rajit Sikka** <[rajit\\_sikka@tcs.com](mailto:rajit_sikka@tcs.com)>  
Date: Mon, Apr 12, 2021 at 1:29 PM  
Subject: RE: Credit course AI  
To: Prof. Anil Chaudhary <[hodit@skit.ac.in](mailto:hodit@skit.ac.in)>  
Cc: Ajay Singh <[ajaykumar.singh@tcs.com](mailto:ajaykumar.singh@tcs.com)>

Dear Sir

We will cover the following over the sessions . Pl share the Link

1) AI - Logics- propositional logics, (2) AI - First Order Predicate Logics (FOPL), (3) AI - Properties of Wff, AI - (4 )Clausal Forms, (5) AI - Syntax of First Order Predicate Logics

Regards

Rajit Sikka  
Tata Consultancy Services  
Phone +91-11-66506418  
Buzz: 4116418  
Mobile +91-11-9250008027  
Mail [rajit\\_sikka@tcs.com](mailto:rajit_sikka@tcs.com)  
Website <http://www.tcs.com>

---

Experience certainty. IT Services  
Business Solutions  
Consulting

---

---

**From:** Prof. Anil Chaudhary <[hodit@skit.ac.in](mailto:hodit@skit.ac.in)>  
**Sent:** Monday, April 12, 2021 2:13 PM  
**To:** Rajit Sikka <[rajit\\_sikka@tcs.com](mailto:rajit_sikka@tcs.com)>  
**Cc:** Ajay Singh <[ajaykumar.singh@tcs.com](mailto:ajaykumar.singh@tcs.com)>  
**Subject:** Re: Credit course AI

"External email. Open with Caution"

Dear Rajit,

Thank you for confirmation kindly share the teaching/training program for the same.

regards,

anil

On Mon, Apr 12, 2021 at 12:43 PM Rajit Sikka <[rajit\\_sikka@tcs.com](mailto:rajit_sikka@tcs.com)> wrote:

Dear Prof

Yes ,

We will do from 19 April – 2pm

Pl share link

Regards

Rajit Sikka  
Tata Consultancy Services

<https://mail.google.com/mail/u/1/#inbox/FMfgzGkXmhxCNTzmxvWbfZbMGpgsBbV>

1/2

6/17/2021

Fwd: Credit course AI - nidhi03.srivastav@gmail.com - Gmail

Phone +91-11-66506418  
Buzz: 4116418  
Mobile +91-11-9250008027  
Mail [rajit\\_sikka@tcs.com](mailto:rajit_sikka@tcs.com)  
Website <http://www.tcs.com>

---

Experience certainty. IT Services  
Business Solutions  
Consulting

---

### **3. Committee of Workshop**

Workshop is organized by Department of Computer Science & Engg. and Department of IT

Coordinators of Workshop are:

1. Pankaj Jadwal
2. Nidhi Srivastav
3. Dolly Mittal
4. Shalini Singhal

#### **4. Objective of the Workshop:-**

- To understand the concepts of Artificial Intelligence.
- To get a better understanding of knowledge Representation.
- To gain knowledge about Propositional Logic and Predicate logic
- To have a brief Introduction about the Machine Learning

#### **5. Content of the Workshop:-**

- Introduction to AI and its approaches
- Logics-Propositional Logic
- First Order Predicate Logic
- Properties of WFF
- Clausal Form
- Syntax of First Order Predicate logic
- Machine Learning Introduction



## **6. Expert Details**

Mr. Ajay Singh has more than 26 years of experience and had worked in various capacity from system engineer to solution architect and delivery owner. He Started his carrier with CMC Limited in late 90's and was associated with Indian Government IT enablement. Key projects to name were: Indian Railways Passenger Information system , Indian Railways Freight Operations Information System (FOIS) - Pilot development and implementation of FOIS across 130 Locations, Gas Authority of India Limited - Project Manager of their IT Infrastructure Management and had done the country wide migration, Hisar Agriculture University Campus wide network , Email Solution and network security.

He has worked on Many reputed international projects as project manager / Delivery Manager. He has been associated with critical solution design from TCS some of them are - UIADI, DOP, and Smart Cities. Currently he heads the delivery excellence for CBO for Delhi NCR region.

## 7. Workshop Schedule

<b>S.no</b>	<b>Date</b>	<b>Time</b>	<b>Speaker</b>
1	19 <sup>th</sup> April 2021	2:00-2:15 PM (Inaugral)	Mr. Rajit Sikka,TCS
2	19 <sup>th</sup> April 2021	2:15-3:00 PM	Mr Ajay Singh,TCS
3	20 <sup>th</sup> April 2021	2:00-3:00 PM	Mr Ajay Singh,TCS
4	21 <sup>st</sup> April 2021	2:00-3:00 PM	Mr Ajay Singh,TCS
5	22 <sup>nd</sup> April 2021	2:00-3:00 PM	Mr Ajay Singh,TCS
6	23 <sup>rd</sup> April 2021	2:00-3:00 PM	Mr Ajay Singh,TCS

## 8. Workshop Brochure



The brochure features a dark blue background with glowing digital patterns and a stylized human head profile with gears inside. At the top left is the SKIT logo, and at the top right is a small image of a person in an orange robe. The TATA logo and 'TATA CONSULTANCY SERVICES' are centered. The main title and dates are prominently displayed in white text. A QR code is located on the right side, and a list of faculty coordinators is at the bottom right.

**SKIT** Swami Keshvanand Institute Of Technology  
Management & Gramothan  
Ramnagaria , Jagatpura , Jaipur 302017

**TATA**  
TATA CONSULTANCY SERVICES

AN ONLINE STUDENT WORKSHOP ON  
"ARTIFICIAL INTELLIGENCE AND MACHINE  
LEARNING"

( 19 - 22 APRIL, 2021 2 PM ONWARDS )

*Conducted by TCS*  
*Organized by Department of CSE & IT*

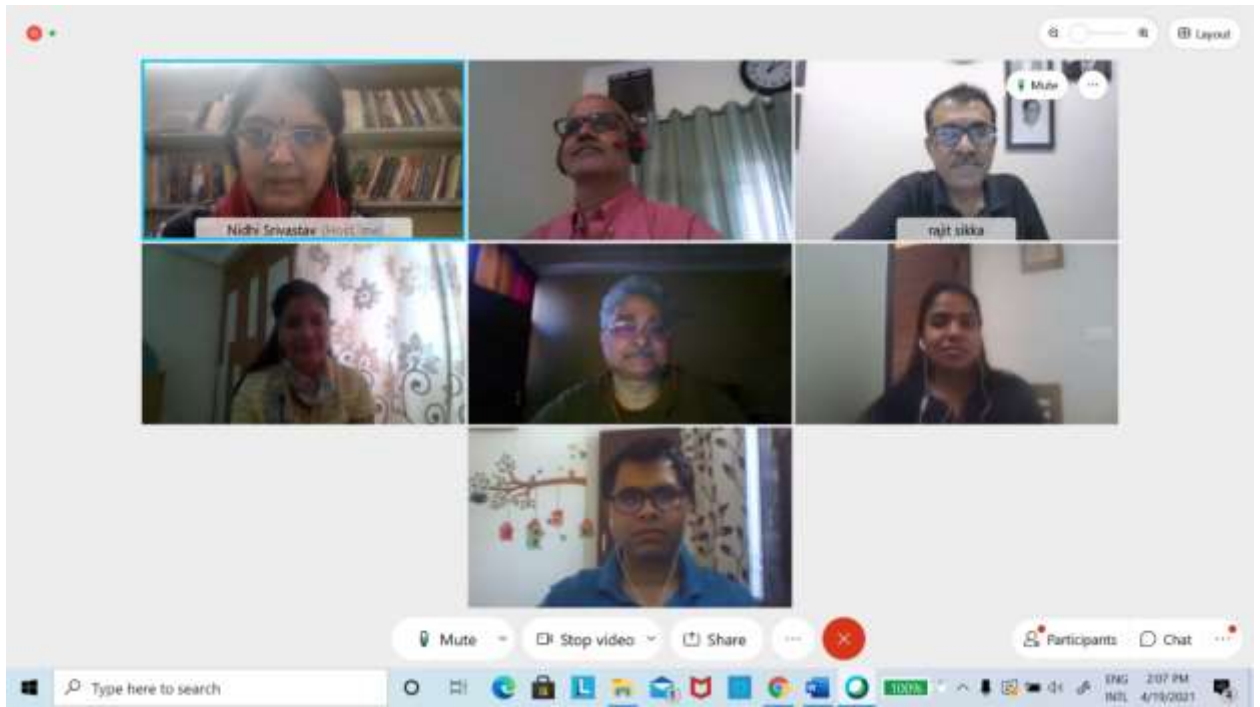
Register on the Link below :  
<https://forms.gle/b1d5U2hJuRytXZw8>

**Faculty Coordinators :**

Mr. Pankaj Jadwal (CSE) : 9799153564  
Ms. Nidhi Srivastava (CSE) : 9981381882  
Ms. Dolly Mittal (IT) : 9829408543  
Ms. Shalini Singhal (IT) : 8952979529

# 9. Glimpses of Inauguration Ceremony





## 10. News Coverage



### एसकेआईटी मे आर्टिफिशियल इंटेलिजेंस एंड मशीन लर्निंग पर पांच दिवसीय छात्र कार्यशाला शुरू

#### P3 Police Public Politics

जयपुर । स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी, मैनेजमेंट एंड ग्रामोथन, में झण्डा द्वारा संचालित आर्टिफिशियल इंटेलिजेंस एंड मशीन लर्निंग पर पांच दिवसीय छात्र कार्यशाला का प्रो अनिल चौधरी (हेड आईटी) एवं प्रो मुकेश कुमार गुप्ता (हेड सीएसई) के मार्गदर्शन में कंप्यूटर विज्ञान और इंजीनियरिंग और आई टी विभाग में शुरू किया गया।

इस अवसर पर हेड आईटी प्रो अनिल चौधरी ने सभी गणमान्य व्यक्तियों और प्रतिभागियों का ऑनलाइन मंच पर

स्वागत किया। टीसीएस से समन्वयक कार्यशाला श्री रजित सिक्का ने इस कार्यशाला के महत्व पर इंडस्ट्री - इंस्टीट्यूट के अंतर को भरने के लिए एक साधन के रूप में विचार-विमर्श किया। टीसीएस के श्री अजय सिंह ने सत्र के पहले दिन आर्टिफिशियल इंटेलिजेंस के महत्व को और तर्क के रूप में एआई तथ्यों का प्रतिनिधित्व किया। यह कार्यशाला पंकज जडवाल, निधि श्रीवास्तव, डॉली मित्तल और शालिनी सिंघल एस्त्व × दृञ्ज विभाग के समन्वय में 19 अप्रैल -23 अप्रैल से आयोजित की जा रही है।

## एआइ एंड मशीन लर्निंग पर कार्यशाला शुरू

जयपुर ♦ स्वामी केशवानंद इंस्टीट्यूट ऑफ टेक्नोलॉजी (एसकेआइटी) में टीसीएस की ओर से 'आर्टिफिशियल इंटेलिजेंस एंड मशीन लर्निंग' पर पांच दिवसीय कार्यशाला की शुरुआत मंगलवार से हुई। इस मौके पर वक्ताओं ने वर्तमान में एआइ एवं मशीन लर्निंग की महत्ता एवं उपयोगिता पर प्रकाश डाला। कार्यशाला का संचालन कॉलेज के आइटी हैड प्रो. अनिल चौधरी और सीएसई हैड प्रो. मुकेश कुमार गुप्ता ने किया। टीसीएस से रजित सिक्का ने इंडस्ट्री - इंस्टीट्यूट के अंतर को भरने के लिए तर्क दिए। अजय सिंह ने सत्र को संबोधित किया। कार्यशाला पंकज जडवाल, निधि श्रीवास्तव, डॉली मित्तल और शालिनी सिंघल के कोर्डिनेशन में आयोजित हो रही है। कॉलेज के निदेशक जयपाल मील ने सभी का आभार जताया।

# Technologically ahead



## CITY FIRST

**A** five-day workshop focusing on 'Artificial Intelligence and Machine Learning' conducted by TCS began on Monday at the Department of Computer Science & Engineering and Information Technology, under the guidance of Prof Dr Anil Choudhary (Head IT), Dr Mukesh Kumar Gupta (Head CSE) at Swami Keshvanand



Institute of Technology, Management & Gramothan. Rajit Sikka, Coordinator Workshop from TCS deliberated on the importance of this workshop as a means to fill the Industry Academia gap, whereas, Ajay Singh explained the importance of AI.

Pankaj Jadwal, Nidhi Srivastav, Dolly Mittal and Shalini Singhal from the Department of CSE & IT will be conducting sessions in the following days.

[cityfirst@firstindia.co.in](mailto:cityfirst@firstindia.co.in)



## **11. DayWise Execution of Workshop**

A 5 day workshop on “Artificial Intelligence and Machine Learning” in collaboration with TCS was started on April 19<sup>th</sup>, 2021.

### **Day-1**

**Date: 19/04/2021**

**Time: 2:00-3:00 PM**

- ✓ Session was started with inaugural ceremony where Mr. Rajit Sikka from TCS sharing about the “Academic Interface Program Group” at TCS. TCS conducts various Faculty connect Program, student connect Program, gaming contests and Internship program as part of this group.
- ✓ Mr. Ajay Singh discussed about areas of AI and dependencies between them. He also explains about Artificial Intelligence and different approaches of AI. He also covered proposition logics in AI.

This screenshot shows a Zoom meeting in progress. The main window displays a slide titled "What is Artificial Intelligence?". The slide content includes:

- Making computers that think?
- The acquisition of activities we associate with human thinking, like decision making, learning...
- The art of creating machines that perform functions that require intelligence when performed by people?

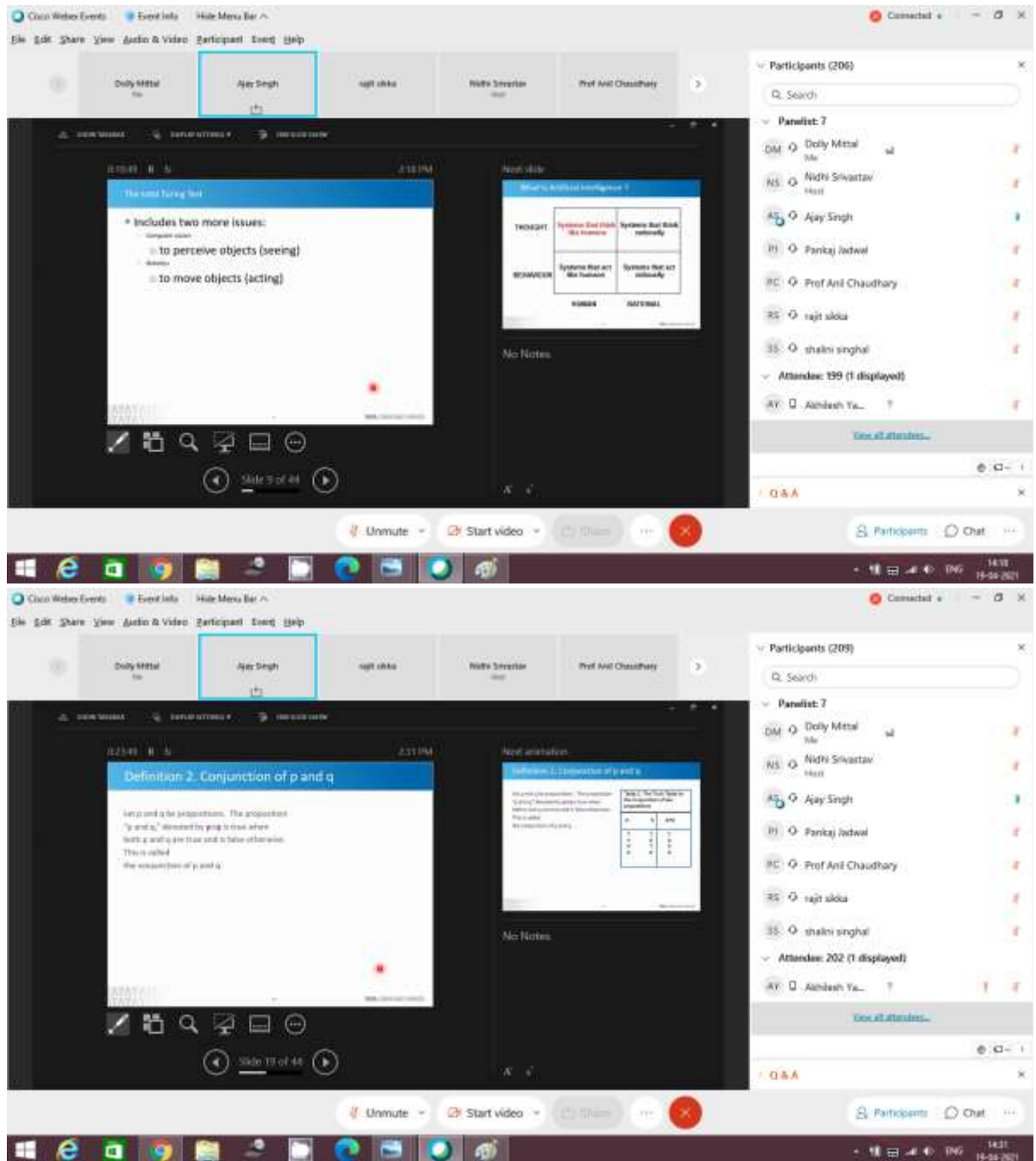
The participant list on the right shows 159 participants, with a "Panelist: 7" section listing several names including Dolly Mittal, Nidhi Sivastav, Ajay Singh, Pankaj Jaiswal, Prof Anil Chaudhary, rajt sika, and shalini singhal. The meeting controls at the bottom show "Unmute" and "Start video" buttons.

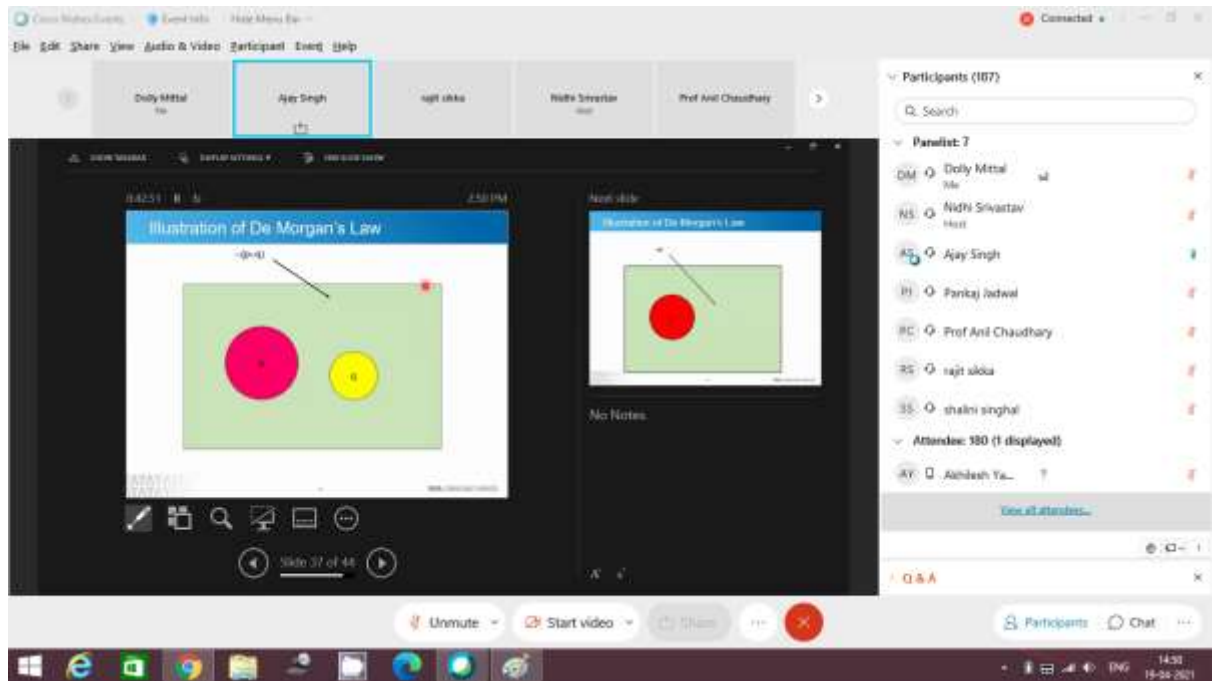
✓

This screenshot shows a Zoom meeting in progress. The main window displays a slide titled "Systems that act like humans". The slide content includes:

- The Turing Test approach
  - A human questioner (asked 1000)
  - Identifies computer by a series of questions, via multiple questions (conversations)
  - Not computer needs to beat intelligently
- Intelligent behavior
  - To behave human like for a series of all together tasks

The participant list on the right shows 202 participants, with a "Panelist: 7" section listing several names including Dolly Mittal, Nidhi Sivastav, Ajay Singh, Pankaj Jaiswal, Prof Anil Chaudhary, rajt sika, and shalini singhal. The meeting controls at the bottom show "Unmute" and "Start video" buttons.





**Day-2:**

**Date: 20/04/2021**

**Time: 2:00-3:00 PM**

- ✓ Mr. Ajay Singh discussed about First order Predicate logic and how to write facts into logic.
- ✓ He explains the process of converting facts into FOL.
- ✓ He illustrate conversion of Facts into logic and then in CNF by different examples.

Cisco Webex Events | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal Ajay Singh Audio Streamer Parag Jaiswal Prof. Anil Choudhary

Participants (227)

Panelist 6

Dolly Mittal Host

Nidhi Srivastav Host

Ajay Singh

Chat

To: Everyone

Enter chat message here

Q & A

Unmute Start video Share

14:57 26-04-2021

Viewing Ajay Singh's applic...

Basic Elements of First-order logic

Following are the basic elements of FOL syntax:

Constant	$c, a, b, \text{John}, \text{Rama}, \text{an} \dots$
Predicate	$P, Q, R, S, \dots$
Function	$\text{father}, \text{mother}, \dots$
Connective	$\neg, \vee, \wedge, \rightarrow, \leftrightarrow$
Quantifier	$\forall, \exists$

Atomic sentences are the smallest atomic sentences in Predicate (Event, Event, ..., Event)

Example:  $\text{Rama} \wedge \text{Ajay are teachers} \rightarrow \text{teachers}(\text{Rama}, \text{Ajay})$

Clearly it is not  $\rightarrow$  not (Clearly)

No Notes

Slide 6 of 31

✓

Cisco Webex Events | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal Ajay Singh Audio Streamer Parag Jaiswal Prof. Anil Choudhary

Participants (232)

Panelist 6

Dolly Mittal Host

Nidhi Srivastav Host

Ajay Singh

Chat

To: Ajay Singh

Enter chat message here

Q & A

Unmute Start video Share

14:58 26-04-2021

Viewing Ajay Singh's applic...

Complex Sentences:

- First-order logic statements can be divided into two parts:
  - Subject: Subject is the main part of the statement.
  - Predicate: A predicate can be defined as a relation, which binds two atoms together in a statement.
- Consider the statement: "x is an integer."

Diagram: "x is an integer." with "Subject" pointing to "x" and "Predicate" pointing to "is an integer."

Complex sentences are made by combining atomic sentences using connectives.

Example:  $\neg S_1 \wedge S_2 \vee S_3, S_4 \Rightarrow S_5 \Rightarrow S_6$

Example:  $\text{Shing}(\text{Nigigig}, \text{Richard}) \wedge \text{Richard}(\text{Richard})$

Complex sentences are made by combining atomic sentences using connectives.

it consists of two parts, the first part x is the subject of the statement and second part "is an integer." is known as a predicate.

Slide 8 of 31

Cisco Webex Events | Event Info | Hide Menu Bar ^

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | **Ajay Singh** | Nidhi Sivartav | Panjaj Jadhav | Prof Anil Chaudhary

Participants (238)

Panelist: 7

DM Dolly Mittal  
NS Nidhi Sivartav  
**AS Ajay Singh**  
PI Panjaj Jadhav  
PC Prof Anil Chaudhary  
RS rajt sika  
SS shalini singhal

Attendee: 231 (0 displayed)

Chat  
Q & A

Unmute | Start video | Share

Windows Taskbar: 14:11 26-08-2021

---

Cisco Webex Events | Event Info | Hide Menu Bar ^

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | **Ajay Singh** | Nidhi Sivartav | Panjaj Jadhav | Prof Anil Chaudhary

Participants (243)

Panelist: 7

DM Dolly Mittal  
NS Nidhi Sivartav  
**AS Ajay Singh**  
PI Panjaj Jadhav  
PC Prof Anil Chaudhary  
RS rajt sika  
SS shalini singhal

Attendee: 236 (0 displayed)

Chat  
Q & A

Unmute | Start video | Share

Windows Taskbar: 14:15 26-08-2021

**Models for FOL: Example**

Next slide

**Task Summary**

- Consider the interpretation in which:
  - John → the first figure, left
  - John → the left leg, left
  - brother → the brotherhood relation
- Take the interpretation: John → John, Ajay → the first figure, left the first figure and the left leg, left and the brotherhood relation in the model.

True objects: Two binary relations, Three unary relations, One unary function

---

**Universal quantification**

All men drink coffee.

Let a variable  $x$  which refers to a cat so all  $x$  can be represented in USD as below:

- all drinks coffee
- all drinks
- all drinks milk
- all drinks water
- all drinks juice

↓

all men drink coffee, and some coffee is also

$\forall x \text{ man}(x) \rightarrow \text{drink}(x, \text{coffee})$ .

Note: In universal quantifier we use implication " $\rightarrow$ ".

↓

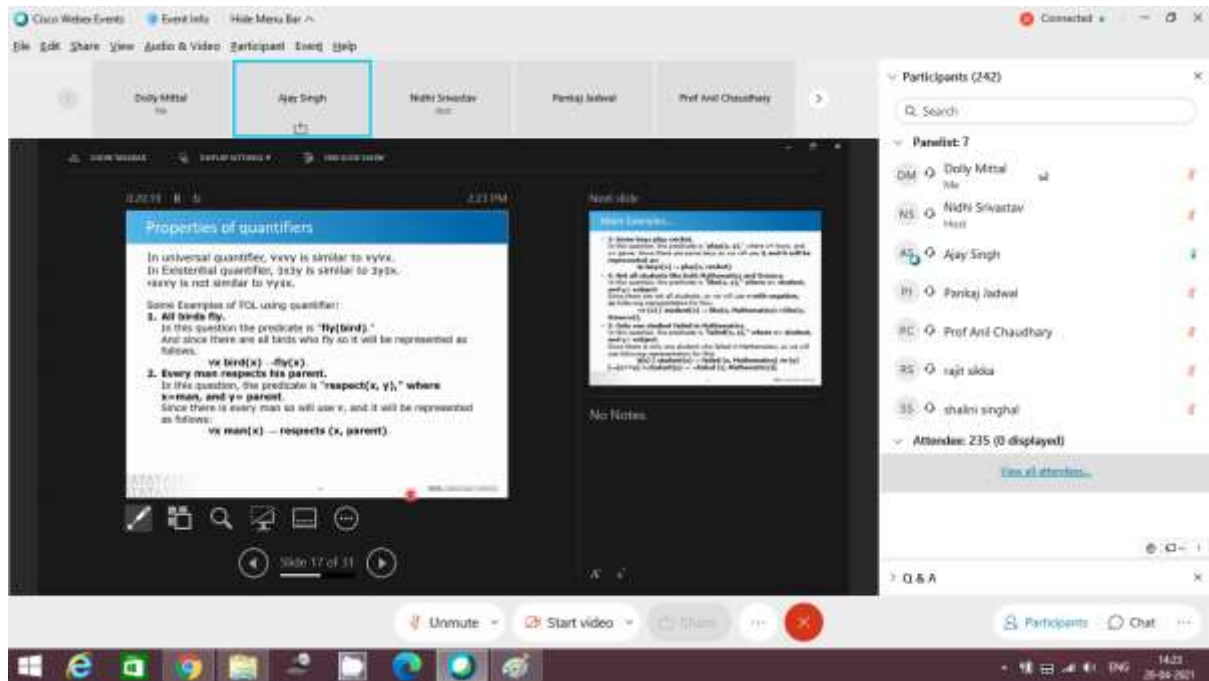
University of Wisconsin

Next slide

**A quantifier cannot be denied**

- Universal quantifiers usually used with "forall" to form "forall-objects".
- Typically,  $\forall$  is the main connective with  $x$ .
- Common mistake using  $\forall$  as the main connective with  $\neg$ .
- Example:  $\forall x \text{ man}(x) \rightarrow \text{drink}(x, \text{coffee})$  is true.  $\forall x \text{ man}(x) \rightarrow \text{drink}(x, \text{coffee})$  is false.

Universal quantifier is a symbol of logical representation, which specifies that the statement within its range is true for everything or every instance of a particular thing. The Universal quantifier is represented by a symbol  $\forall$ , which resembles an inverted A. If  $x$  is a variable, then  $\forall x$  is read as: "For all  $x$ ".



**Day-3:**

**Date: 21/04/2021**

**Time: 2:00-3:00 PM**

- ✓ Mr. Ajay Singh discussed about unification and resolution in FOL
- ✓ Explain Forward and backward chaining and difference between them.
- ✓ Explain inductive and deductive reasoning in AI.

Zoom Meeting | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | **Ajay Singh** | Anil Chaudhary | Nishi Srivastav | Parikaj Iodwal

Slide 1 of 36

Next slide

Unification and its condition

- identical or the condition
- identical or FOL
- universal and existential sharing
- universal and existential sharing
- allowing to do
- universal and existential sharing

Participants (140)

Panelist: 7

- DM Dolly Mittal
- AS **Ajay Singh**
- AC Anil Chaudhary
- NS Nishi Srivastav

Chat

From my question to all panelists: Can AI be used in detecting frauds?

To: Host

Enter chat message here

Q & A

Unmute | Start video | Share

Participants | Chat

14:15 21-08-2021

Zoom Meeting | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | Ajay Singh | Anil Chaudhary | Nishi Srivastav | Parikaj Iodwal

Slide 3 of 36

Next slide

Implementation

1. Find the head of both L1 and L2. If L1 = P(x1, x2, ..., xn) and L2 = P(y1, y2, ..., yn) then return FAILURE. If L1 = P(x1, x2, ..., xn) and L2 = P(x1, x2, ..., xn) then return SUCCESS.
2. Check the head of both L1 and L2. If L1 = P(x1, x2, ..., xn) and L2 = P(y1, y2, ..., yn) then return FAILURE. If L1 = P(x1, x2, ..., xn) and L2 = P(x1, x2, ..., xn) then return SUCCESS.
3. If L1 = P(x1, x2, ..., xn) and L2 = P(y1, y2, ..., yn) then return FAILURE. If L1 = P(x1, x2, ..., xn) and L2 = P(x1, x2, ..., xn) then return SUCCESS.
4. If L1 = P(x1, x2, ..., xn) and L2 = P(y1, y2, ..., yn) then return FAILURE. If L1 = P(x1, x2, ..., xn) and L2 = P(x1, x2, ..., xn) then return SUCCESS.

Implementation of the Algorithm

Step 1: Initialize the substitution set to be empty.

Step 2: Recursively unify atomic sentences:

1. Check for identical expression match.
2. If one expression is a variable x, and the other is a term t, which does not contain variable x, then...

Participants (146)

Panelist: 7

- DM Dolly Mittal
- AS Ajay Singh
- AC Anil Chaudhary
- NS Nishi Srivastav
- PI Parikaj Iodwal
- RS rajt sidda
- SS shalini singhal

Attendee: 139 (1 displayed)

View all attendees...

Q & A

Unmute | Start video | Share

Participants | Chat

14:18 21-08-2021



Zoom Meeting | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | Ajay Singh | Anil Chauthary | Nishi Srivastav | Parikaj Jodwal

Participants (162)

Panelist 7

- DM Dolly Mittal
- AS Ajay Singh
- AC Anil Chauthary
- NS Nishi Srivastav
- PI Parikaj Jodwal
- RS rajt skda
- SS shalini singhal

Attendee 155 (1 displayed)

AY Aishwesh Ya...

Unmute | Start video | Share

Participants | Chat

Examples...

1. Find the MGU of  $(p(X), q(Y))$  and  $p(X, X)$

Sol:  $S_0 \Rightarrow$  Here,  $W_1 = p(X), q(Y)$ , and  $W_2 = p(X, X)$   
 $SUBST \theta = \{X\} / X$   
 $S_1 \Rightarrow W_1 = p(X), q(Y)$ , and  $W_2 = p(X, X)$   
 $SUBST \theta = \{X\} / q(Y)$ . **Unification failed.**  
 (Unification is not possible for these expressions.)

2. Find the MGU of  $(p(X, X, f(g(Z)))$  and  $p(Z, f(Y), f(Y))$

Here,  $W_1 = p(X, X, f(g(Z)))$  and  $W_2 = p(Z, f(Y), f(Y))$   
 $S_0 \Rightarrow \{p(X, X, f(g(Z))) / p(Z, f(Y), f(Y))\}$   
 $SUBST \theta = \{Z\} / Z$   
 $S_1 \Rightarrow \{p(X, X, f(g(Z))) / p(Z, f(Y), f(Y))\}$   
 $SUBST \theta = \{f(Y) / X\}$   
 $S_2 \Rightarrow \{p(f(Y), f(Y), f(g(f(Y)))) / p(Z, f(Y), f(Y))\}$   
 $SUBST \theta = \{g(f(Y)) / Z\}$   
 $S_3 \Rightarrow \{p(f(Y), f(Y), f(g(f(Y)))) / p(Z, f(Y), f(Y))\}$  **Unified Successfully.**  
 And Unifier =  $\{Z / f(Y), X / g(f(Y))\}$ .

Examples

3. Find the MGU of  $(p(X, X, X)$  and  $(p(X, X, X))$

Here,  $W_1 = p(X, X, X)$  and  $W_2 = p(X, X, X)$   
 $S_0 \Rightarrow \{p(X, X, X) / p(X, X, X)\}$   
 $SUBST \theta = \{X\} / X$   
 $S_1 \Rightarrow \{p(X, X, X) / p(X, X, X)\}$   
 Hence, unification is not possible for these expressions.

4. Find the MGU of  $(p(f(X), f(Y), f(Z)))$  and  $(p(X, X, X))$

Here,  $W_1 = p(f(X), f(Y), f(Z))$  and  $W_2 = p(X, X, X)$   
 $S_0 \Rightarrow \{p(f(X), f(Y), f(Z)) / p(X, X, X)\}$   
 $SUBST \theta = \{X\} / X$   
 $S_1 \Rightarrow \{p(f(X), f(Y), f(Z)) / p(X, X, X)\}$   
 Hence, unification is not possible for these expressions.

Zoom Meeting | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | Ajay Singh | Anil Chauthary | Nishi Srivastav | Parikaj Jodwal

Participants (107)

Panelist 7

- DM Dolly Mittal
- AS Ajay Singh
- AC Anil Chauthary
- NS Nishi Srivastav
- PI Parikaj Jodwal
- RS rajt skda
- SS shalini singhal

Attendee 100 (1 displayed)

AY Aishwesh Ya...

Unmute | Start video | Share

Participants | Chat

Step 2: Conversion of PDE into CNF

In First order logic resolution, it is required to convert the PDE into CNF as CNF form makes easier for resolution process.

Elements of logical (—) and rewrite

1.  $\neg \rightarrow$  Negation ( $\neg$ ) and rewrite
2.  $\forall$  and  $\exists$  quantifiers ( $\forall$  and  $\exists$ )
3.  $\rightarrow$  and  $\leftrightarrow$  connectives ( $\rightarrow$  and  $\leftrightarrow$ )
4.  $\wedge$  and  $\vee$  connectives ( $\wedge$  and  $\vee$ )
5.  $\neg \rightarrow$  Negation ( $\neg$ ) and rewrite
6.  $\forall$  and  $\exists$  quantifiers ( $\forall$  and  $\exists$ )
7.  $\rightarrow$  and  $\leftrightarrow$  connectives ( $\rightarrow$  and  $\leftrightarrow$ )
8.  $\wedge$  and  $\vee$  connectives ( $\wedge$  and  $\vee$ )
9.  $\neg \rightarrow$  Negation ( $\neg$ ) and rewrite
10.  $\forall$  and  $\exists$  quantifiers ( $\forall$  and  $\exists$ )
11.  $\rightarrow$  and  $\leftrightarrow$  connectives ( $\rightarrow$  and  $\leftrightarrow$ )
12.  $\wedge$  and  $\vee$  connectives ( $\wedge$  and  $\vee$ )

Move negative ( $\neg$ ) towards and rewrite

1.  $\neg \rightarrow$  Negation ( $\neg$ ) and rewrite
2.  $\forall$  and  $\exists$  quantifiers ( $\forall$  and  $\exists$ )
3.  $\rightarrow$  and  $\leftrightarrow$  connectives ( $\rightarrow$  and  $\leftrightarrow$ )
4.  $\wedge$  and  $\vee$  connectives ( $\wedge$  and  $\vee$ )
5.  $\neg \rightarrow$  Negation ( $\neg$ ) and rewrite
6.  $\forall$  and  $\exists$  quantifiers ( $\forall$  and  $\exists$ )
7.  $\rightarrow$  and  $\leftrightarrow$  connectives ( $\rightarrow$  and  $\leftrightarrow$ )
8.  $\wedge$  and  $\vee$  connectives ( $\wedge$  and  $\vee$ )

Step 3: Conversion of PDE into CNF

Remove quantifiers or standardize variables

1.  $\forall$  and  $\exists$  quantifiers ( $\forall$  and  $\exists$ )
2.  $\rightarrow$  and  $\leftrightarrow$  connectives ( $\rightarrow$  and  $\leftrightarrow$ )
3.  $\wedge$  and  $\vee$  connectives ( $\wedge$  and  $\vee$ )
4.  $\neg \rightarrow$  Negation ( $\neg$ ) and rewrite
5.  $\forall$  and  $\exists$  quantifiers ( $\forall$  and  $\exists$ )
6.  $\rightarrow$  and  $\leftrightarrow$  connectives ( $\rightarrow$  and  $\leftrightarrow$ )
7.  $\wedge$  and  $\vee$  connectives ( $\wedge$  and  $\vee$ )

Eliminate existential quantifier by Skolemization

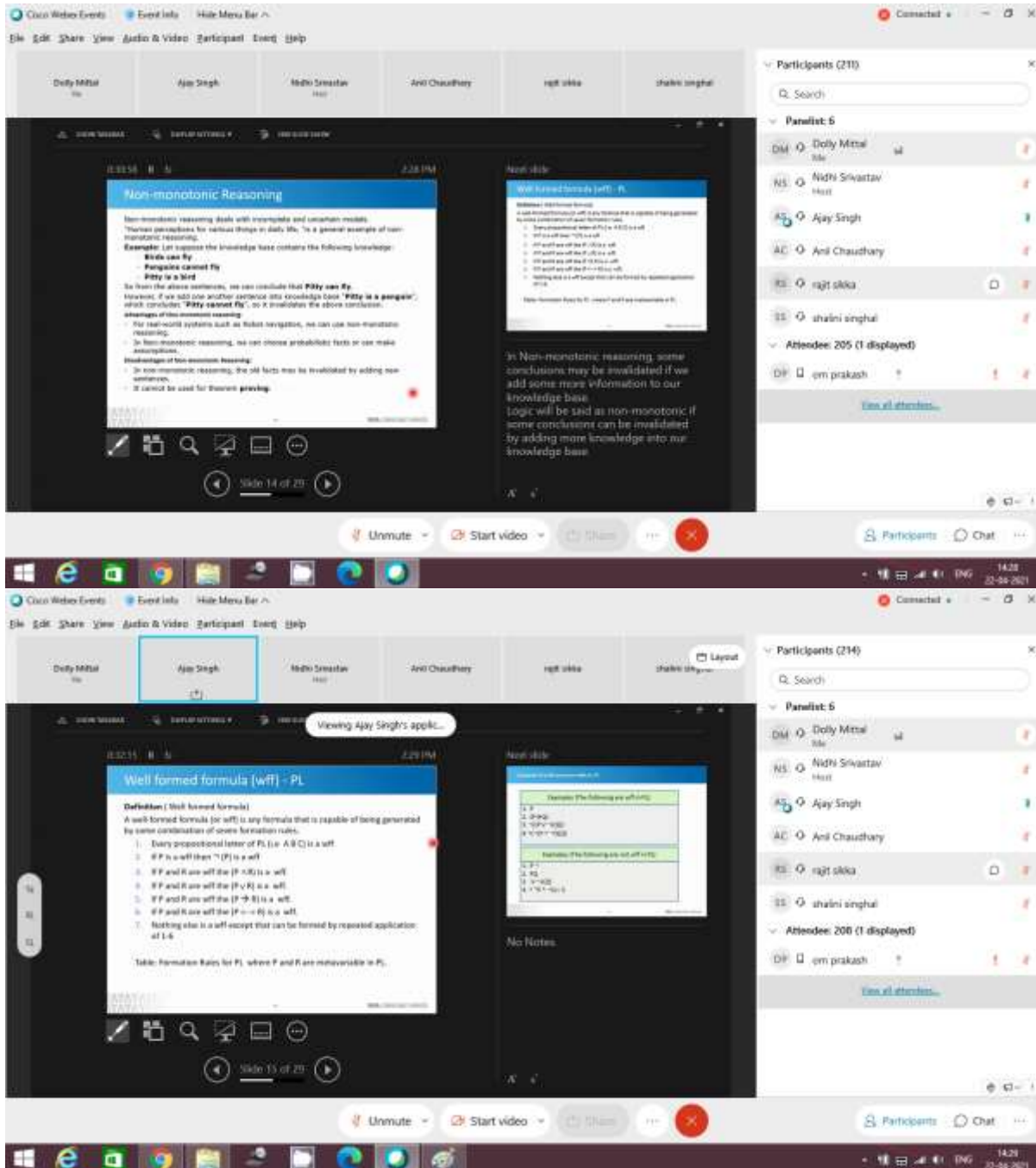
In this step, we will eliminate existential quantifier  $\exists$ , and the process is known as Skolemization. But in this example problem, there is no existential quantifier so all the quantifiers will remain same in this step.

Day-4:

Date: 22/04/2021

Time: 2:00-3:00 PM

- ✓ Mr. Ajay Singh discussed about Properties of Well formed formula.
- ✓ Explain all the steps of converting First order formula like moving negations, moving quantifiers, distributing disjunctions into Clausal Form



Cisco Webex Events | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | **Ajay Singh** | Nidhi Srivastav | Anil Chaudhary | rajt shika | shalini singhal

Participants (217)

Panelist 5

DM Dolly Mittal  
NS Nidhi Srivastav  
AS **Ajay Singh**  
AC Anil Chaudhary  
RS rajt shika  
SS shalini singhal

Attendee: 211 (1 displayed)

DP pm prakash

Transcribing English to Predicate Logic

Example

Given the sentence "not every integer is even", the predicate "E(x)" meaning x is even, and that the universe is the set of integers, first restate it as "It is not the case that every integer is even" or "It is not the case that for every object x in the universe, x is even."

Then "it is not the case" can be represented by the connective "¬", "every object x in the universe" by "∀", and "x is even" by E(x). Thus altogether wff becomes:  $\neg \forall x E(x)$ .

Close Normal Form

Clause Normal Form (CNF) is a sub-language of 1st order logic. A clause is an expression of the form  $(L_1 \vee \dots \vee L_n)$  where each  $L_i$  is a literal. Clauses are denoted by uppercase letters with a superscript i, e.g., C<sup>i</sup>.

No Notes

Slide 20 of 20

Unmute | Start video | Chat

Cisco Webex Events | Event Info | Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dolly Mittal | Ajay Singh | Nidhi Srivastav | Anil Chaudhary | rajt shika | shalini singhal

Participants (215)

Panelist 5

DM Dolly Mittal  
NS Nidhi Srivastav  
AS **Ajay Singh**  
AC Anil Chaudhary  
RS rajt shika  
SS shalini singhal

Attendee: 209 (1 displayed)

DP pm prakash

Clause Normal Form

Clause Normal Form (CNF) is a sub-language of 1st order logic. A clause is an expression of the form  $(L_1 \vee \dots \vee L_n)$  where each  $L_i$  is a literal. Clauses are denoted by uppercase letters with a superscript i, e.g., C<sup>i</sup>.

Converting to Clause Normal Form

Five steps of conversion

1. Rename variables
2. Negate
3. Move Negation in
4. Move Quantifiers out
5. Distribute
6. Remove duplicates
7. Convert to CNF

There are satisfiability preserving transformations from 1st order logic to CNF. i.e., if a set of (1st order) formulae are satisfiable, then their CNF is satisfiable. Conversely, if the CNF of a set of formulae is unsatisfiable, then the formulae are unsatisfiable. This is then useful for showing logical consequences. The benefit of conversion to CNF is that

Slide 21 of 20

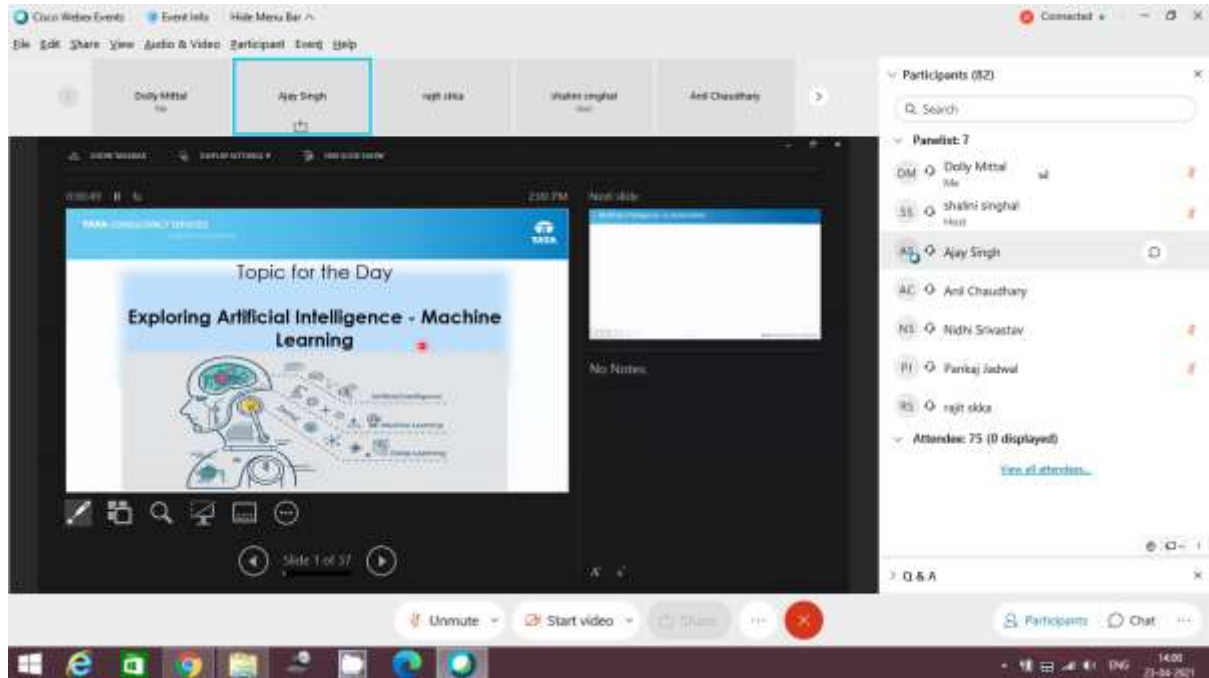
Unmute | Start video | Chat

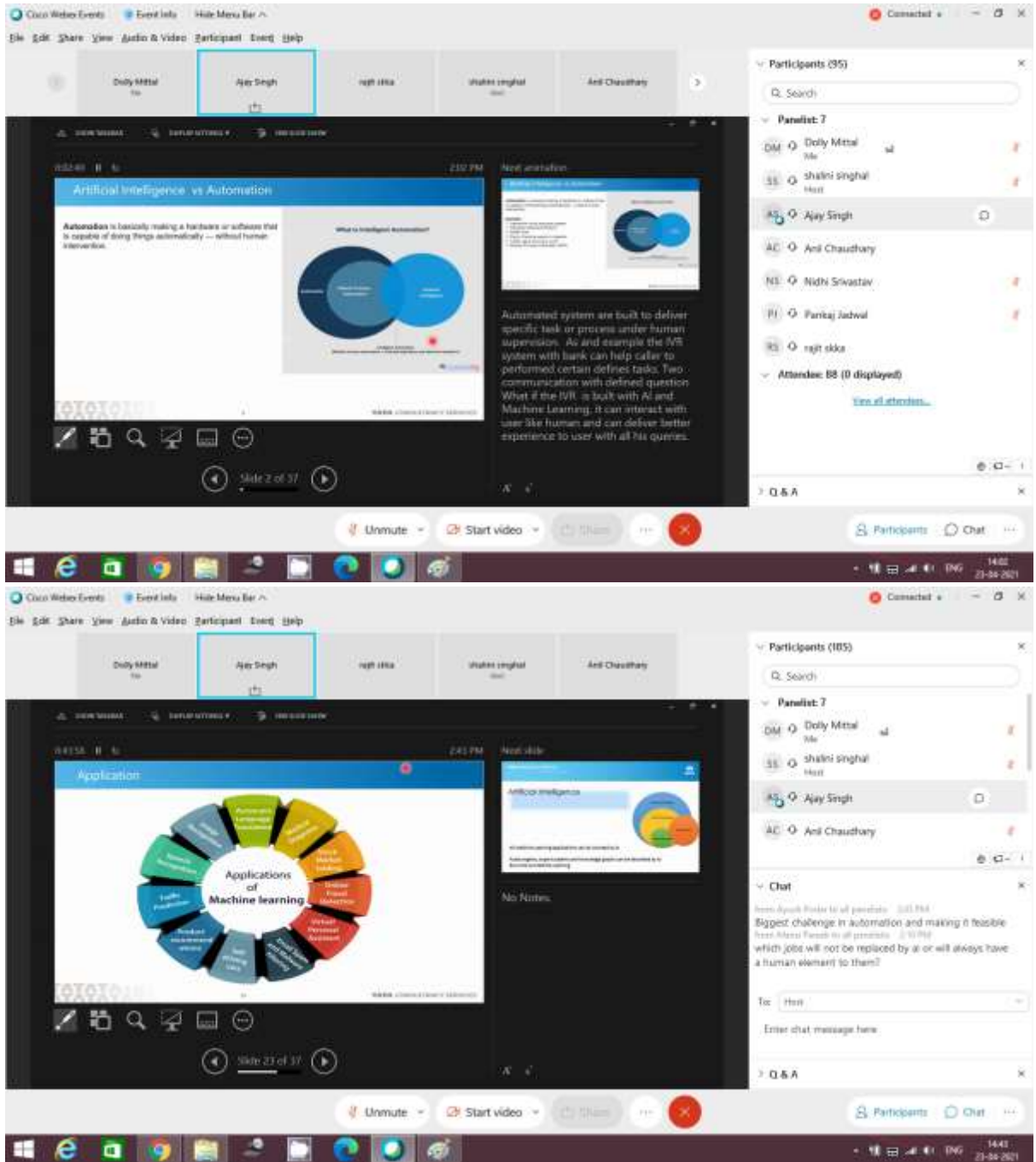
## Day-5:

**Date: 23/04/2021**

**Time: 2:00-3:00 PM**

- ✓ Day 5 was more of a question and answer session.
- ✓ Mr. Ajay discussed how AI, machine learning and deep learning are related.
- ✓ Then he discussed various applications of machine learning.





## 12 Sample Copy of Participant's Certificate



### 13 List of Participants who received Certificate

S.no	Name	Email	Organisation
1	AAYUSHI SHARMA	sharmaaayushi2302@gmail.com	SKIT , Jaipur
2	ABHISHEK KHANDELWAL	abhishekkhandelwal9672@gmail.com	SKIT , Jaipur
3	ABHISHEK SHARMA	abhish22075@gmail.com	SKIT , Jaipur
4	ABHISHEK SHARMA	abhishek56113@gmail.com	SKIT , Jaipur
5	ABHISHEK YADAV	ay0187900@gmail.com	SKIT , Jaipur
6	ACCHINT KAUR	saachikaur19@gmail.com	SKIT , Jaipur
7	ADARSH DIXIT	addixit1141@gmail.com	SKIT , Jaipur
8	ADITI AGARWAL	aditiagarwal256@gmail.com	SKIT , Jaipur
9	ADITI SHARMA	aditi0504sharma@gmail.com	SKIT , Jaipur
10	ADITYA MANU SHARMA	adityambha1999@gmail.com	SKIT , Jaipur
11	AJAY GUPTA	ajaygupta2634502@gmail.com	SKIT , Jaipur
12	AKSHAT GODHA	aktgdh@gmail.com	SKIT , Jaipur
13	AKSHAT JAIN	akshat9983@gmail.com	SKIT , Jaipur
14	AKSHAT SHARMA	workakshat22@gmail.com	SKIT , Jaipur
15	AKSHAT SHARMA	Sharmaakshat38694@gmail.com	SKIT , Jaipur
16	AKSHAT SHARMA	akshatsharma3132@gmail.com	SKIT , Jaipur
17	AKSHITA DALMIA	adalmia33@gmail.com	SKIT , Jaipur
18	AKSHITA SOPRA	akshitasopra@gmail.com	SKIT , Jaipur
19	AMAN DEEP SINGH SANDHU	amandeepsinghsandhu0702@gmail.com	SKIT , Jaipur
20	AMISHA AGGARWAL	amishaaggarwal10@gmail.com	SKIT , Jaipur
21	ANIL KUMAR JANGID	jangidaniil99199950@gmail.com	SKIT , Jaipur
22	ANJALI SHARMA	anjali656sharma@gmail.com	SKIT , Jaipur
23	ANSH PANCHOLI	pancholiانش17@gmail.com	SKIT , Jaipur
24	ANSHUL RANKA	anshulranka.ar@gmail.com	SKIT , Jaipur
25	ANSHUMAN YADAV	Anshumanyadav171@gmail.com	SKIT , Jaipur
26	ANURAG MATHUR	anuragmathur58949@gmail.com	SKIT , Jaipur
27	APOORVA DUBEY	apoorvadubey13@gmail.com	SKIT , Jaipur
28	ARPIT SOMANI	arpit.somani8@gmail.com	SKIT , Jaipur
29	ARPITA DUBEY	arpitadubey1329@gmail.com	SKIT , Jaipur
30	ARUSHI ARORA	aroraarushi46@gmail.com	SKIT , Jaipur
31	ATISHAY JAIN	atishay027@gmail.com	SKIT , Jaipur
32	AYUSH MISHRA	ayushitsme24@gmail.com	SKIT , Jaipur
33	AYUSH PODAR	podar.ayush1@gmail.com	SKIT , Jaipur
34	AYUSH RANJAN	b200132@skit.ac.in	SKIT , Jaipur
35	BHANUPRIYA PANWAR	bhagts0144@gmail.com	SKIT , Jaipur
36	BHAVIKA SAMDANI	bhavikasamdani@gmail.com	SKIT , Jaipur
37	CHHAVI JANGID	chhavijangid2000@gmail.com	SKIT , Jaipur
38	CHIRAG BHAYANA	chiragbhayana2k@gmail.com	SKIT , Jaipur
39	CHIRAG JAIN	me.chiragjain@gmail.com	SKIT , Jaipur

40	CHIRAG JAIN	charchitjain6569@gmail.com	SKIT , Jaipur
41	CHITWAN AGARWAL	Chitwanagarwal1415@gmail.com	SKIT , Jaipur
42	DEEP SHAH	shahdeep020@gmail.com	SKIT , Jaipur
43	DEVYANSHI KHANDELWAL	devyanshik24@gmail.com	SKIT , Jaipur
44	DIMPAL GUPTA	dimple911gupta@gmail.com	SKIT , Jaipur
45	DINESH JAJOO	dineshjajoo123456@gmail.com	SKIT , Jaipur
46	DISHA GOYAL	dishagoyal2009@gmail.com	SKIT , Jaipur
47	DIVYANSH SHARMA	divyanshjpr01@gmail.com	SKIT , Jaipur
48	DRISHTI JAIN	drishtijainswm343@gmail.com	SKIT , Jaipur
49	EKLAVYA JOSHI	eklavyajoshi11@gmail.com	SKIT , Jaipur
50	GARIMA GOYAL	garimagoyal3600@gmail.com	SKIT , Jaipur
51	GARVIT JAISWAL	garvit.jpr1@gmail.com	SKIT , Jaipur
52	GAURANSHU MATHUR	gauranshumathur@gmail.com	SKIT , Jaipur
53	GAURAV AGARWAL	009agarwalgaurav@gmail.com	SKIT , Jaipur
54	HARJOT SINGH	harjot200400@gmail.com	SKIT , Jaipur
55	HARSH MODI	hanimodi2000@gmail.com	SKIT , Jaipur
56	HARSH VARDHAN GOEL	harshvardhanmpsite@gmail.com	SKIT , Jaipur
57	HARSHIT GUPTA	harshitgupta2302@gmail.com	SKIT , Jaipur
58	HARSHIT KUMAR SEVKANI	harshitksevkanii7777@gmail.com	SKIT , Jaipur
59	HARSHIT SHARMA	harshit48099921@gmail.com	SKIT , Jaipur
60	HARSHITA SHEKHAWAT	harshita.shekhawat79@gmail.com	SKIT , Jaipur
61	HEMANT PATWARI	hamentpatwari@gmail.com	SKIT , Jaipur
62	ISHITA MATHUR	ishitamathur2806@gmail.com	SKIT , Jaipur
63	ISHITA VAID	Ishitavaid2899@gmail.com	SKIT , Jaipur
64	JAGRATI SHARMA	sharmajagrati56@gmail.com	SKIT , Jaipur
65	JAHANVI RATHI	jahanvirathi2000@gmail.com	SKIT , Jaipur
66	JAYESH KHATRI	khatrijayeshrl@gmail.com	SKIT , Jaipur
67	JYOTI AGRAWAL	jyotiagrawal1407@gmail.com	SKIT , Jaipur
68	KALPANA MODI	Kalpanamodi2002@gmail.com	SKIT , Jaipur
69	KAPIL RAJ TANWAR	krt1724@gmail.com	SKIT , Jaipur
70	KARAN AGGARWAL	Karangarg432001@gmail.com	SKIT , Jaipur
71	KARTIK SAINI	kartik.10saini@gmail.com	SKIT , Jaipur
72	KARTIKEY AGRAWAL	agrawalkartikey14@gmail.com	SKIT , Jaipur
73	KARTIKEYA BAJPAI	bajpaikartik22@gmail.com	SKIT , Jaipur
74	KAVYA PRASANAN	kavyapash25@gmail.com	SKIT , Jaipur
75	KHUSHAL SHARMA	khushals794@gmail.com	SKIT , Jaipur
76	KHUSHBOO RATHORE	Khushboorathore555@gmail.com	SKIT , Jaipur
77	KRISHNA RATHI	jitendrarathi821@gmail.com	SKIT , Jaipur
78	KSHITIJ KUMAWAT	kshitijkumawat98@gmail.com	SKIT , Jaipur
79	KUNAL MAMODIYA	2001kunalmamodiya@gmail.com	SKIT , Jaipur
80	LAKSHYA DEWANI	lak.deka290899@gmail.com	SKIT , Jaipur
81	LIVISHA JAIN	Jainlivisha211@gmail.com	SKIT , Jaipur
82	LOVISH CHITTORA	lovishchittora13@gmail.com	SKIT , Jaipur



83	MANSI JAIN	mansi208j@gmail.com	SKIT , Jaipur
84	MANSI PAREEK	mansipareek1@gmail.com	SKIT , Jaipur
85	MUSKAN GUPTA	muskangupta22331@gmail.com	SKIT , Jaipur
86	NAMAN BACHLAS	namanoverseas11@gmail.com	SKIT , Jaipur
87	NAMAN JOSHI	naman.vinayak.joshi@gmail.com	SKIT , Jaipur
88	NAMAN PORWAL	namanporwal3010@gmail.com	SKIT , Jaipur
89	NIKHIL AGARWAL	leonardovinci67@gmail.com	SKIT , Jaipur
90	NIRAMAY VYAS	niramay.vyas@gmail.com	SKIT , Jaipur
91	NISHA JAIN	nj796499@gmail.com	SKIT , Jaipur
92	NISHITA TOLANI	nishitatolani0908@gmail.com	SKIT , Jaipur
93	NITIN SHARMA	starkmark960@gmail.com	SKIT , Jaipur
94	OM PRAKASH	omprakash.kukna@gmail.com	SKIT , Jaipur
95	POOJA JAIN	Jp507607@gmail.com	SKIT , Jaipur
96	POOJA RATHORE	poojarathore.nks@gmail.com	SKIT , Jaipur
97	PRACHI BEHL	prachibehl27@gmail.com	SKIT , Jaipur
98	PRACHI MUNOT	prachimunot1999@gmail.com	SKIT , Jaipur
99	PRAFULL BHARGAVA	prafullbhargava7@gmail.com	SKIT , Jaipur
100	PRAFULL BHARGAVA	prafullbhargava7@gmail.com	SKIT , Jaipur
101	PRANJAL AGRAWAL	pranjal2140@gmail.com	SKIT , Jaipur
102	PRATEEK GOYAL	prateek29081999@gmail.com	SKIT , Jaipur
103	PRATHAM KOTHARI	PrathamKothari140509@gmail.com	SKIT , Jaipur
104	PRATHAM KOTHARI	PrathamKothari140509@gmail.com	SKIT , Jaipur
105	PRATHAM KOTHARI	Prathamkothari140509@gmail.com	SKIT , Jaipur
106	PRIYANSH INDORIA	priyansh81099@gmail.com	SKIT , Jaipur
107	PUNEET ALWANI	alwanipuneet25@gmail.com	SKIT , Jaipur
108	PUNEET GARG	punitg0109@gmail.com	SKIT , Jaipur
109	RADHIKA MALPANI	radhika.malpani.99@gmail.com	SKIT , Jaipur
110	RADHIKA SODHANI	radhikasodhani12@gmail.com	SKIT , Jaipur
111	RAHUL BHATI	rockyrahulsingh304@gmail.com	SKIT , Jaipur
112	RAKSHA MODI	modiraksha03@gmail.com	SKIT , Jaipur
113	RAKSHIT ROCHWANI	rakshitrochwani007@gmail.com	SKIT , Jaipur
114	RITIK GARG	vbgarg36@gmail.com	SKIT , Jaipur
115	RITIK GUPTA	ritikgupta2502@gmail.com	SKIT , Jaipur
116	RITIKA JAIN	ritika8233@gmail.com	SKIT , Jaipur
117	RIYA AGARWAL	btech18esks138@skit.ac.in	SKIT , Jaipur
118	ROBINS KUMAR	robins99.k@gmail.com	SKIT , Jaipur
119	ROHIT SINGH DHAKAR	rohitdhakarrajput09@gmail.com	SKIT , Jaipur
120	RONIT GUPTA	ronitg258@gmail.com	SKIT , Jaipur
121	ROSHAN NAMA	roshan.namdev80@gmail.com	SKIT , Jaipur
122	SAJAL BIRLA	sajalbirla71@gmail.com	SKIT , Jaipur
123	SAKSHAM JAIN	Sakshamcmu123@gmail.com	SKIT , Jaipur

124	SAKSHAM JAIN	sakshamjain2107@gmail.com	SKIT , Jaipur
125	SAKSHI GURBANI	sakshi18.gurbani@gmail.com	SKIT , Jaipur
126	SAMARDEEP SINGH CHOPRA	samardeep1609@gmail.com	SKIT , Jaipur
127	SANIDHYA SAXENA	sanidhya0504@gmail.com	SKIT , Jaipur
128	SANSKAR DUTT SHARMA	Sanskar.dutt78@gmail.com	SKIT , Jaipur
129	SARTHAK AGARWAL	sarthakagarwal3a@gmail.com	SKIT , Jaipur
130	SHREYANSH JAIN	shreyanshjainsj1004@gmail.com	SKIT , Jaipur
131	SHREYASH LATA	shreyeslata@gmail.com	SKIT , Jaipur
132	SHRUTI MEHTA	shrutimehta973@gmail.com	SKIT , Jaipur
133	SHUBHAM NAGAR	shubhamnagar234@gmail.com	SKIT , Jaipur
134	SHUBHAM SHARMA	shubhamsharma7227@gmail.com	SKIT , Jaipur
135	SHUBHAM SINGH	shubhamranawat8690@gmail.com	SKIT , Jaipur
136	SHUBHIKSHA KHANDELWAL	khandelwalshubhiksha@gmail.com	SKIT , Jaipur
137	SKAND GUPTA	gupta.skend@gmail.com	SKIT , Jaipur
138	SOMIN SETH	sominseth5921@gmail.com	SKIT , Jaipur
139	SOURAV SHANDILYA	souravshandilya1998@gmail.com	SKIT , Jaipur
140	SUNIDHI SHARMA	sunidhi0608@gmail.com	SKIT , Jaipur
141	TANISHA CHOUDHARY	mstanishachoudhary@gmail.com	SKIT , Jaipur
142	TANISHA DHEMLA	tanishadhemia@gmail.com	SKIT , Jaipur
143	TANMAY BHARGAVA	tanmaybhargava2000@gmail.com	SKIT , Jaipur
144	TANMAY PANDEY	Tanmaypandey99@gmail.com	SKIT , Jaipur
145	TANU MEHRA	tanumehra002@gmail.com	SKIT , Jaipur
146	TARUN KANT SHARMA	sharma.tarun4444@gmail.com	SKIT , Jaipur
147	TARUN SHARMA	tarunsharma00091@gmail.com	SKIT , Jaipur
148	TUSHAR SAXENA	tusharsaxena031@gmail.com	SKIT , Jaipur
149	UTKARSH MAHESHWARI	utkarshmaheshwari5095@gmail.com	SKIT , Jaipur
150	VIBHOR JAIN	vibhorjain1422000@gmail.com	SKIT , Jaipur
151	VIJAY THAKUR	vijaythakvj2112@gmail.com	SKIT , Jaipur
152	VIKAS KUMAR TANK	vikaskumar171020@gmail.com	SKIT , Jaipur
153	VINAY VYAS	vinayvyas911@gmail.com	SKIT , Jaipur
154	VISHAKHA AGARWAL	vishuagarwal199@gmail.com	SKIT , Jaipur
155	VISHAL BOTHRA	vishal72220@gmail.com	SKIT , Jaipur
156	VISHAL GUPTA	gptavishal1@gmail.com	SKIT , Jaipur
157	VISHESH SHARMA	vishesh.sharma0305@gmail.com	SKIT , Jaipur
158	VISHNU KUMAR SHARMA	vishnu257169@gmail.com	SKIT , Jaipur
159	VISHWANATH HOSMANE	vishwanathhosmane58@gmail.com	SKIT , Jaipur
160	YASH KHANDELWAL	khandelwalyash2710@gmail.com	SKIT , Jaipur
161	YASH MAHESHWARI	yashm5747@gmail.com	SKIT , Jaipur
162	YOGESH PORWAL	Pyogesh1299@gmail.com	SKIT , Jaipur
163	YOGIT KUMAR	kumaryogit88@gmail.com	SKIT , Jaipur

