EDITOR'S CORNER

Haritha N

The month of January has been quiet happening at SCIT. With two flagship events of the institution - Graffiti '19 and TEDx happening back to back, the month was filled with fun and frolic. The entire SCIT fraternity worked together tirelessly to make the events a successful one. January is the month of harvest. It is a month of wealth and prosperity Sankranthi, Pongal and Lohri celebrations beautified the campus with joy and happiness! The students conducted various competitions and events as part of the celebrations. The first month of the new year 2019 hence began well and has set a great path for the upcoming months. SCIT was brimmed with happiness with all the celebrations. The flagship events and the festivals added hues to the campus.

Web and Media Committee hereby presents the 26th Edition of Atharva for all its readers.

Happy Reading!

What's Inside..

TEDXSIUHINJEWADI 2019 - SCULPTING DREAMS

Divya Pichumani

The fifth edition of TEDx SIU Hinjewadi was organised on 5thJanuary, 2019. TEDx is one such event where leaders from different domains like technology, entertainment and design come together to share their ideas. They share experiences from their lives which enabled them to stand apart from the crowd and achieve what they felt was their calling. Some of the greatest minds in these domain came together to share their ideas with the students at SIU, Hinjewadi campus.

The hosts for the day took the stage and introduced the first speaker – Ms. Amita Karadkhedkar, Project Delivery Manager at Barclays. She was born a transwoman and thus had to break a lot of barriers. She spoke about metamorphosis at large and shared a beautiful story of her evolution of acceptance and growth. Soon after this, members of the Multifit team took to the stage to perform a fusion of martial arts and left the audience captivated by their performance.

The next speaker was Ms. Vani Kapoor, India's Number One female golfer. She spoke on how she hated the game at first and then through encouragement and support went on to fall in love with the game and also master it. The next inspiring speech was given by Mr. Vikas Chawda, Founder and CEO of Quantum Leap. He spoke about the necessity to think out of the box and generate new ideas in order to sculpt our dreams.

Ms. Anita Iyer, Founder and Managing Trustee of EKansh Trust shared the story of how we can understand the value of life by doing small changes to the way we think. Then, Mr. Satyarth Priyedarshi, Head of Product Marketing at JioChat went on to share stories of life with examples drawn from the life of the poet Ghalib.

The next speaker to share her stories was Ms. Karishma Mehta, CEO of Humans of Bombay. She shared the story of how she broke the stereotypes of the expectations from a management graduate and went on to capture the stories and lives of people.

Ms. Sonali Swami, Fitness Model and International Athlete took to the stage and spoke about her journey towards embracing fitness and making it a career.

The last speaker of the day was Mr. Suarabh Shetye, Singer and Mirchi Music Awardee, told a musical story of his life. He used musical anecdotes and explained how his perseverance towards music helped him to reach this stage in life.

The curtains for the day were drawn with the concluding performance by the famous artists – Sabali The Band. They brought a perfect end to the day with their rocking performance. The success of the fifth edition of TEDx is attributed to the relentless works of the entire TEDx team and the support and encouragement of the faculty and the management.

DATTANSH '19

Dhruti Lahar

Dattansh'19 – 1st , the Annual Analytics Conclave was held by the MBA- Data Science and Data Analytics students of SCIT on Saturday, 12th January 2019. The topic was Datafication: Quantifying the Unimaginable. It was an initiative by the DSDA students to pace ourselves with the advancing technologies.The event was successful in all the aspects with the relentless efforts by the MBA DSDA Guest Lecture Committee who poured in their heart and soul out. Dr. Dhanya Pramod, Director of SCIT, welcomed the speakers for Dattansh '19. She gave insights on the emerging trends in Data Science and spoke on how Data Strategy will play a major role in the coming days

The keynote speaker for the day was Mr Sachin Kelkar, Head of API Scale Software Program, Intel. Mr. Sachin drives the developer evangelism teams in the areas of Artificial Intelligence, IoT and Game Development. He owns the AI academic program for APJ region and has been working with top Universities in Asia Pacific region. The day also had Technical talkers Mr. Prakash Bade, Risk & Analytics Manager, CRISIL and Mr. Saurav Kaushik,

Data Scientist from leading ride sharing company. Mr. Prakash Bade is extensively experienced in predictive analysis and risk management consulting. On the other hand, Mr. Saurav Kaushik is PyPI and CRAN contributor. The Product Expo Talker for the day were Ms. Sucheta Dhere, ex-VP at Vodafone India, Standford University Ambassador for WiDS(Women in Data Science and Mr. Soumendra Dhanee, founder of Difference engine.

The whole seminar revolved around Datafication – a word unfamiliar to dictionaries yet heard reverberating across industries throughout the world. It encompasses the collective tools, technologies and processes used to transform an organization into a

data-driven enterprise. Mr. Sachin Kelkar, the keynote speaker gave the students insights about what to expect from Datafication and usage of data to determine one's personality. He also spoke about the role of Artificial Intelligence as a driving force in gathering insights about using data and also the emergence of Augmented Analysis. The brilliance of datafication lies in its ability to capture one's thoughts, actions and activities into a numerically quantified format called data.

Mr. Prakash Bade enlightened us with the latest trends in the field of Risk Analytics. He also talked about the data sets which are generated using the

Machine Learning Models. The extraction of meaningful information from the huge amount of data will play a major role in generating models and helping hand towards shaping the industries in nearby future. Mr. Saurav Kaushik, one of the top 500 Data Scientists on Kaggle, discussed about various types of decision trees and the use of algorithms.The Product expo experts made the students realize that the upcoming technologies need particular skills and talents to discover and learn them.

The various products that were explained opened new avenues for students to visualise the ways in which Data Science is being used in day to day processes. The Question and Answer session was an interactive one. Many students participated and put forth their queries to the speakers who answered them most willingly.

Lastly, Dr. SVK Bharathi, Professor at SCIT, addressed his vote of thanks on behalf of SCIT and was privileged about the unknown knowledge he gained through the initiative made by the DSDA students to arrange Dattansh'19 and making it a grand success.

GRAFFITI '19

Haritha. N

SCIT's annual techno managerial fest – Graffiti '19 was held on 19th and 20th of January 2019. The fest was held at the SIC campus, which witnessed thousands of participants flooding in. The Day 1 of Graffiti '19 began with the opening ceremony. The students, staffs and the faculty members of SCIT gathered to mark the beginning of the fest.

Day 1 had many events that were lined up for the participants. The events included B-Plan creation, Crime Scene Investigation, Team Strategizing, G-MUN and many more. The mime, solo performances and street play by Eklavya – the theatre club of SCIT attracted people with their exemplary performances. The day ended with performances from Konnect – the official music band of SCIT and the dance club of SCIT – Symbeats. The performances left the audience startled and geared the team for the day 2.

Day 2 included events like Business quizzes, Marketing, Stock market analysis and the flagship event of Graffiti – Advitiya. The performance by Eklavya, yet again elated the feel and added hues to the campus. Students actively participated in all the events and won many exciting prizes. The prize distribution and the closing ceremony

was held post the competitions in which the winners were appreciated for their victory. Director of SCIT Dr.Dhanya Pramod, and the Faculty mentor of Graffiti Dr.Mugdha Kulkarni, shared their words of appreciation to the entire team of Graffiti for putting in their heart and soul to make this event bigger and better this year.

Post the closing ceremony, the celebrations continued at the SIC Sports Arena. SCIT welcomed Malang – the band and DJ LIJO for an electrifying night. Konnect - the official college band of SCIT, opened the stage for Malang. The students were exhilarated and enjoyed by cheering up for the performing band. Malang had indeed enthralled the audience with their scintillating performance

Following this was the most awaited DJ night. DJ LIJO made the crowd move to some of the famous Bollywood songs. The entire SIC campus tirelessly danced to hits, energized and elated the atmosphere.

A huge crowd turned up to witness the grand DJ night. Despite the long days of work, the students came together to provide a fitting end to what was started in a grand manner. Emcee Vishaal Aloysius Rasquinha brought with him an energy that was

was in perfect sync with that of the DJ's. The visitors and the students embraced the night and danced to the tunes. The DJ night gave the most deserving and perfect end to Graffiti '19.

Graffiti '19 witnessed everything right from competitive events to DJ night and band performances that was enjoyed by the crowd. It kept the spirits of everyone high and encouraged them to work harder. The event was a complete package. The entire event was perfectly organized, and witnessing the event getting bigger and brighter eased out pressure of the whole team that worked day and night continuously. The flag of SCIT flew higher and Graffiti '19 was one more feather to the cap that had 'Mighty Mighty SCIT' echoing all over!

With relentless efforts from the entire team, immense support from the management Graffiti '19, concluded on a successful note. The benchmark was set and the history of SCIT, will always remember 19th and 20th of January 2019, along with its victorious tale!

FINANCIAL LITERACY

Manpreet Kaur

Financial Management has become one of the most crucial elements in both individual's life and in businesses. It's no more about strategic management but more about financial management. Financial Management is at the heart of any business and individual's life and one of the areas which can help them to drive forward. These days' people know how to earn but their investing skills are not that sound and most of the times they invest in non-profitable way and end up in losses and huge debts. Such instances discourage them for the rest of their life to invest again.

"Financial Education is discovering where you are and what you have financially, and then determining where you want to go."

Considering the above referred scenario, SCIT took initiative to educate its technical sound learners regarding distinct ways of making investment. The guest lecture committee invited Shikha Mittal, founder of Be.Artsy and a great speaker to shed some light on financial literacy topic on 16th January, 2019.

Be.artsy is an organisation that uses a blend of art, emotional intelligence and technology to address social and workplace issues by conducting street theater for social activism on the lanes of Delhi. Shikha Mittal has integrated street theater and other art forms to develop interactive programmes on topics such as financial literacy, gender sensitization, diversity and inclusion, prevention of sexual harassment and other employee awareness and benefits programmes throug Be.artsy. It is also a financial awareness partner of the National Stock Exchange form since 2016.

At SCIT, they also conducted 'Nukkad Natak' and educated the students on how investments should be made. Moreover, she enlightened the students regarding the negative consequences of poor financial choices. She educated the students regarding the skills requirement to create a budget, the ability to track spending, learning the techniques to pay off debt and effectively plan for retirement.

To encapsulate, the session on Financial Literacy helped the students to know how to manage finances, especially their personal finances. They also understood the significance of investment and tracking of expenses as these skills will act as umbrella for them during the rainy days of their lives.

DESIGN THINKING STRATEGY

Dhruti Luhar

"Creativity is nothing but a mind set free." – Torrie T. Asai

Design Thinking helps to set our mind free. SCIT organized a lecture on Design Thinking Strategy by Mr. Parimal Modi, Founder of Metamorphosis Training Consultants on Friday, 11th January, 2019. Mr. Parial Modi works with start-ups and believes in dynamism in thinking and innovation. He cleared all myths about Design Thinking that it's a hard-core business template; rather he informed students that Design Thinking is all about following a simple template.

By giving the brief history of Design Thinking, he made the students aware about how DesignThinking evolved in last few years in various mega-project scenarios i.e. PMAY support, one of the mammoth task for real life Design Thinking application.

He also amazed the students by acknowledging the Huge Community Kitchen, locate in Shirdi is made successful project through Design Thinking Strategies. The community empathize the devotees of different caste and created a prototype which fed 50,000 devotees per day. Later on, the feedback and emotional touch from the devotees they expanded their services for daily basis. This whole Huge Community Kitchen was covered on National Geography channel in one of the Mega Project episode. He also told about that Late Shree Dr. A.P.J Abdul Kalam has mentioned in his book "Wings of fire" that the Agni Missile launch was made successful with the help of Design Strategy.

He also mentioned that one ordinary man can write a blockbuster film script by using Design Thinking Strategies. Design Thinking is all about amalgamating customer's need, what we can service for it and how economically one can sustain it. The four questions which need to be focused on while formulating the strategies are "What works?", "What wows?", "What if?" and "What is?". The only practices we need to obtain for setting our mind free are vision, skills, incentives, resources and action plan.

Lastly, he felt very honored and privileged to share his knowledge with the SCITians and urge the need to follow Design Thinking practices on small-large aspects of life.

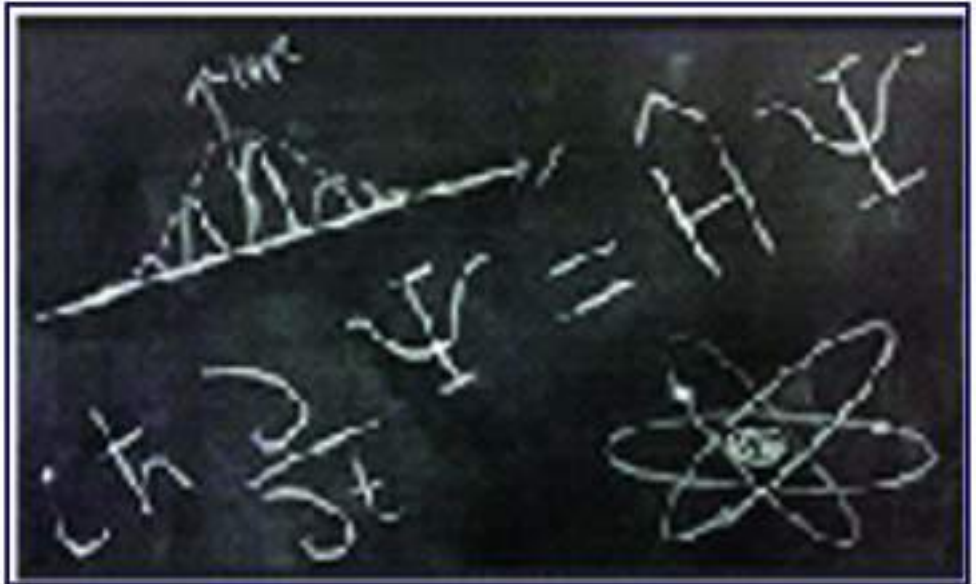# QUANTUM COMPUTING

Dr. Mandaar Pande

Blog 5: Building blocks of quantum information processing: Quantum Gates - A teaser

This is the fifth in a series of blogs that I will be writing for everyone to get a basic understanding of this immensely important research field which is poised to become mainstream in a few years and significantly impact our daily lives.

In my previous blog, I gave a high-level view of why we need to use quantum computers at all in the first place, when there are so many powerful supercomputers available for use. In this blog, I will introduce the building blocks of quantum information processing, namely, quantum gates. There are some important mathematical concepts involved in the definition and functioning of quantum gates. I will be talking about those in forthcoming blogs.

Before I delve into quantum gates, let's do a quick review of the well-known classical, digital or logic gates. As we all know, these are the fundamental building blocks of all smart digital devices including computers, mobile phone, tablets and so on that we use daily. All information processing in digital devices which use classical bits is done using gates. Gates are basically electronic circuits which have at least one input and exactly one output. The reason why they are also called as logic gates is because the input and output values can be taken as "True" or "False". Conventionally, in computer architecture, True is given a numerical value 1 and False has a value 0. I had mentioned in my first blog, that 0 and 1 are the representation of the classical bits, which are the basic units for all information processing in classical computers and other digital devices.

Continuing further, since a gate does not have memory, (that is, it does not retain any information that it received earlier) the value of the output depends solely on the inputs that are given to the gate. This helps in building a truth table which mathematically represents the functionality of the gate. In mathematics and mathematical logic, Boolean Algebra is that branch of algebra in which values of the variables are the truth values True and False denoted by 1 and 0 respectively [1].

The gate with one input and one output is called as the NOT gate. Its function is to reverse the value of the input given to it. That is, if a value 0 (or False) is given as input, the output returned is 1 (True) and vice versa. The truth table for the NOT gate is given in Table 1 below. The gate is represented diagrammatically in Fig 1.
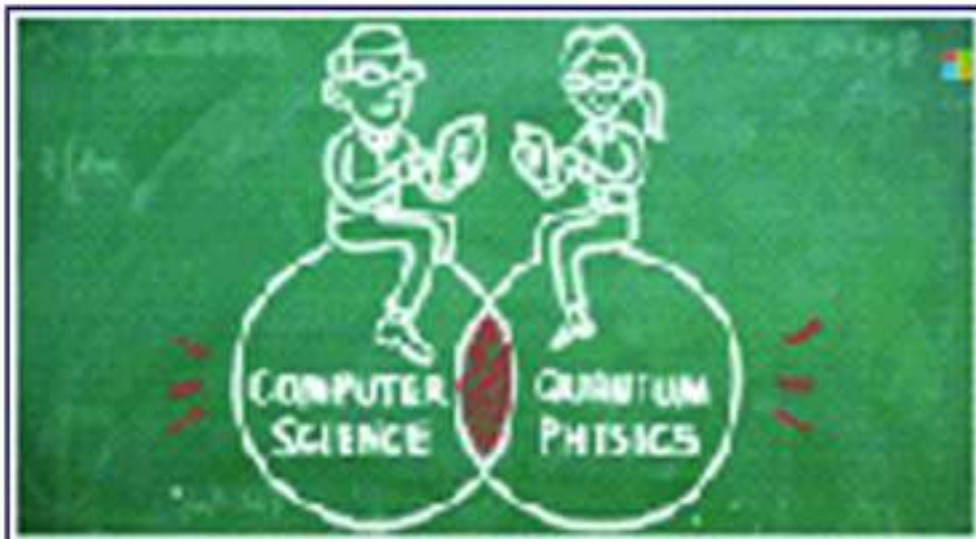

Table 1

Input X	Output Y
0 (False)	1 (True)
1 (True)	0 (False)

Figure 1

FACULTY BLOG

QUANTUM COMPUTING

Dr. Mandaar Pande

Blog 5: Building blocks of quantum information processing: Quantum Gates - A teaser

Continued...

There are numerous gates with 2 inputs and 1 output. Some of the standard two input gates are AND, OR, XOR, NAND and NOR. As the name suggests, the AND gate returns a value of 1 (True) only when both inputs are 1 otherwise it returns 0. In case of an OR gate, the output is 1 when either one or both of the inputs is 1.

An XOR (also called as an exclusive OR) gate is a special case of the OR gate. The XOR gate returns a value 1 only when one of the inputs is 1. Otherwise it returns a value 0. There are other gates such as NAND and NOR gates which give outputs exactly the reverse of the AND and OR gates, respectively. Another important aspect to be kept in mind is about universal gates. A universal gate is a gate using which one can implement any other gate. The NAND and NOR gates are universal gates. For more information on logic gates please refer to [Ref 2].

Now let's come to quantum gates. In a quantum computer, in analogy to a information processing in classical computer, information is processed by using quantum gates. We have seen earlier, that a classical gate transforms one or more inputs (which are bits) to an output (which is again a bit), through a Boolean algebraic transformation. In a similar manner, at the fundamental level, quantum gates are used to transform qubits from one state to another.

Mathematically what this means is that a quantum gate is a transformation operator which transforms a qubit from one quantum state to a different quantum state. One important difference to note in quantum gates in comparison to classical gates is that one can have more than one output in a quantum gate, unlike only one output in classical gates.

We saw above that the mathematical construct of classical gates is Boolean Algebra. For quantum gates the mathematical construct is matrix operations, specifically unitary operations. I will be giving the mathematical foundations of two-level quantum states, qubits and related mathematical constructs and matrix operations in my next blogs.
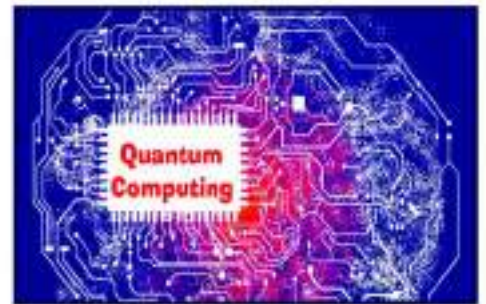
Before I leave you hanging with anticipation, let me mention some of the one, two and three qubit quantum gates.

Examples of the one qubit gates are the Identity gate, X gate (also called the quantum NOT gate), Y gate, Z gate, and Hadamard gate. An example of a two qubit gates is the CNOT or the Controlled NOT gate. Examples of three qubit gates are Fredkin gate and Toffoli gate.

Look forward to sharing more interesting stuff in my later blogs.......

References:

1. https://en.wikipedia.org/wiki/Boolean_algebra

2. https://en.wikipedia.org/wiki/Logic_gate

STAR ALUMNI

PRATEEK BHAJANKA

Dhruti Luhar

Star Alumni of January 2019 is Prateek Bhajanka. He is currently working as Principal Analyst on Security and Risk Management at Gartner. He has also worked as Consultant at EY prior to joining Gartner. He completed his MBA in Information Technology from SCIT in the year 2015. He also holds B.E. in Electronics and Telecommunication from the University of Pune. His expertise also extends to Application Security, Vulnerability Management and Infrastructure Security. He is a Certified Information Systems Auditor (CISA), Certified Ethical Hacker (CEH), Web Application Security, Vulnerability Assessment and Penetration Testing certificate holder. His dynamic professional lifestyle inspires every SCITians to achieve success in different areas inculcating different skills which will help to cope up with advancing trends.

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