

## Top Trends in the Emerging Technologies, 2017:

The Gartner Hype Cycle for Emerging Technologies, 2017 focuses on three emerging technology mega-trends: Artificial intelligence (AI) everywhere, transparently immersive experiences and digital platforms. Enterprise architects and technology innovation leaders should explore and ideate these three mega-trends to understand the future impacts to their business.

“Organizations will continue to be faced with rapidly accelerating technology innovation that will profoundly impact the way they deal with their workforces, customers and partners,” says [Mike J. Walker](#), research director. “Our 2017 Hype Cycle reveals three distinct technology trends that profoundly create new experiences with unrivaled intelligence, and offer platforms that propel organizations to connect with new business ecosystems in order to become competitive over the next five to 10 years.” This Hype Cycle looks at technologies that show promise in delivering a high degree of competitive advantage.

### Three Trends

#### AI Everywhere

Deep Learning  
Deep Reinforcement Learning  
Artificial General Intelligence  
Autonomous Vehicles  
Cognitive Computing  
Commercial UAVs (Drones)

Conversational User Interfaces  
Enterprise Taxonomy  
Ontology Management  
Machine Learning  
Smart Dust  
Smart Robots  
Smart Workspace



#### Transparently Immersive Experiences

4D Printing  
Augmented Reality  
Brain-Computer Interface  
Connected Home

Human Augmentation  
Nanotube Electronics  
Virtual Reality  
Volumetric Displays



#### Digital Platforms

5G  
Digital Twin  
Edge Computing  
Blockchain  
IoT Platform

Neuromorphic Hardware  
Quantum Computing  
Serverless PaaS  
Software-Defined Security



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### **Puzzle corner:**

Test your logical skills with these intriguing puzzles!

#### **1.100 Prisoners in Solitary Cells**

100 prisoners are stuck in the prison in solitary cells. The warden of the prison got bored one day and offered them a challenge. He will put one prisoner per day, selected at random (a prisoner can be selected more than once), into a special room with a light bulb and a switch which controls the bulb. No other prisoners can see or control the light bulb. The prisoner in the special room can either turn on the bulb, turn off the bulb or do nothing. On any day, the prisoners can stop this process and say "Every prisoner has been in the special room at least once". If that happens to be true, all the prisoners will be set free. If it is false, then all the prisoners will be executed. The prisoners are given some time to discuss and figure out a solution. How do they ensure they all go free?

#### **2. The Ant Problem**

Three ants are sitting at the three corners of an equilateral triangle. Each ant starts randomly picks a direction and starts to move along the edge of the triangle. What is the probability that none of the ants collide?

### **Influential people in tech right now:**

#### **Elon Musk:**



Electric cars. Space rockets. Residential solar power. Any one of Elon Musk's undertakings could overwhelm the average person, but not the 45-year-old Musk. His seemingly superhuman drive has produced spectacular results: Tesla is now worth over \$50 billion, while SpaceX has successfully demonstrated reusable rocket technology. But he expects the same superhuman performance from those around him, making him a tough boss to work for. His latest endeavour? Driven by worry that artificial

intelligence will supplant humanity, he's working on a project to meld people's brains with powerful computers.

### **Placement experience:**

*R. Sivapriya, from final year B.tech IT shares her placement experience with Accolite.*

Accolite visited College of Engineering Guindy, Anna University, Chennai on 28th August, 2017. The interview process consisted of 5 rounds in total.

First round of interview lasted for 1 hour 15 minutes which is comprised of nearly 25 MCQ's from domains like DBMS, Networks, Operating System, Logical Reasoning and Quants. There were no negative marking and the correct answer carried 1 mark each. They had 2 different set of question paper. I got set 'A'. Questions were bit tough.

Nearly 100 students got selected for the Second Round. The second round had 3 programming questions to be solved. We had 2 questions for 15 marks and the remaining one for 10 marks.

Question 1 (15 marks): <http://www.geeksforgeeks.org/the-celebrity-problem/>.

Question 2 (15 marks): <http://www.geeksforgeeks.org/next-greater-element/>

Question 3 (10 marks): This was an easy question based on vector.

Luckily, I was called for my 1st technical face to face round among 30 students.

This round lasted for nearly 1 and half hour. I was given 2 questions to be solved.

Question 1: <http://www.geeksforgeeks.org/sum-of-two-linked-lists/>

Question 2: This was a combination of 2 questions i.e. of the two given nodes in a tree find the one that is farther from the root. The solution is a mix of the answers of the following 2 questions <http://www.geeksforgeeks.org/print-binary-tree-vertical-order-set-2/> and <http://www.geeksforgeeks.org/maximum-width-of-a-binary-tree/>.

In my 2st technical face to face round I was asked to program for the question <http://www.geeksforgeeks.org/closest-leaf-to-a-given-node-in-binary-tree/>. In this round I was asked to write DBMS queries for 2 scenarios and some questions were also from OS Concepts.

Finally, I had my HR Round in which I was asked the same routine question that is posed to everyone "Why Accolite?" I was asked to speak about my strength, weakness, long and short- term goals. I gave my answers confidently.

The next day morning around 9:30 I got the message that I was selected by Accolite 😊.

### Answers:

#### **Puzzle Corner:**

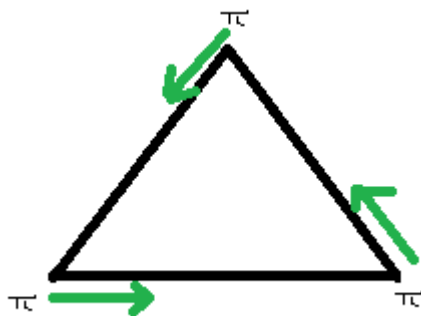
1. Since this is the only way they will EVER get out of that prison, they decide to work together and make a plan. They select one prisoner (Bob, easier to refer) as the counter.

Every time any prisoner is selected other than Bob, they follow these steps. If they have never turned on the light bulb before and the light bulb is off, they turn it on. If not, they don't do anything (simple as that). Now if Bob is selected and the light bulb is already on, he adds one to his count and turns off the bulb. If the bulb is off, he just sits there meditates or whatever he wants to. The day his count reaches 99, he calls the warden and tells him "Every prisoner has been in the special room at least once".

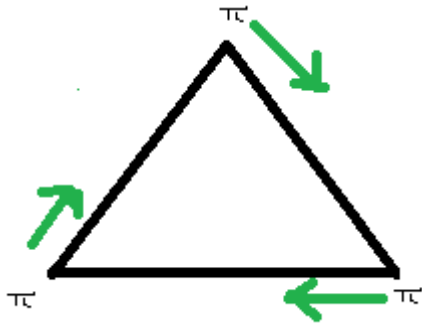
So how does this solution work? Every time a prisoner enters the room first, he turns on the bulb if it is off. This way every prisoner turns on the bulb only once. When Bob enters and sees the bulb on, he knows that one new prisoner has entered the room so he adds one to his count. So when his counter reaches 99, he knows the rest of them have all been in the special room and obviously, he has been in the special room.

2. Collision doesn't happen only in following two cases

- 1) All ants move in counterclockwise direction.



2) All ants move in clockwise direction.



Since every ant has two choices (pick either of two edges going through the corner on which ant is initially sitting), there are total  $2^3$  possibilities.

Out of  $2^3$  possibilities, only 2 don't cause collision. So, the probability of collision is **6/8** and the probability of non-collision is **2/8**.