



GAUNTLET

FOR REGISTRATION :- <https://tinyurl.com/convolution2018GAUNTLET>

TASK:

- Teams have to build a manually controlled bot which can do simple task of gripping blocks and pass the hurdles.
- The bot can be wired or wireless. In case the participants use wireless mechanism, they must use dual frequency remote.

ARENA:

- The outer dimensions of arena are 10 feet X 10 feet (L X B)
It consists of the following:
- Three blocks with each of dimensions 10 cm X 10 cm X 10 cm (L x B x H)
- 5 Cylindrical Hurdles of Diameter 6 cm
- Ramp Assembly with inclination of 15 degrees (8 cm Height, 40 cm Wide, 30 cm Base Length)
- Debris Box of Dimensions 150 cm X 45 cm X 2 cm (L x B x H)
- Construction zone (Centre Circle) of dimension 30 cm Radius (Yellow Color).
- 'Burn a Lap' zone of dimensions 150 cm X 33 cm (L X B), 2 Rectangles and 66 cm Diameter, 2 Semicircles

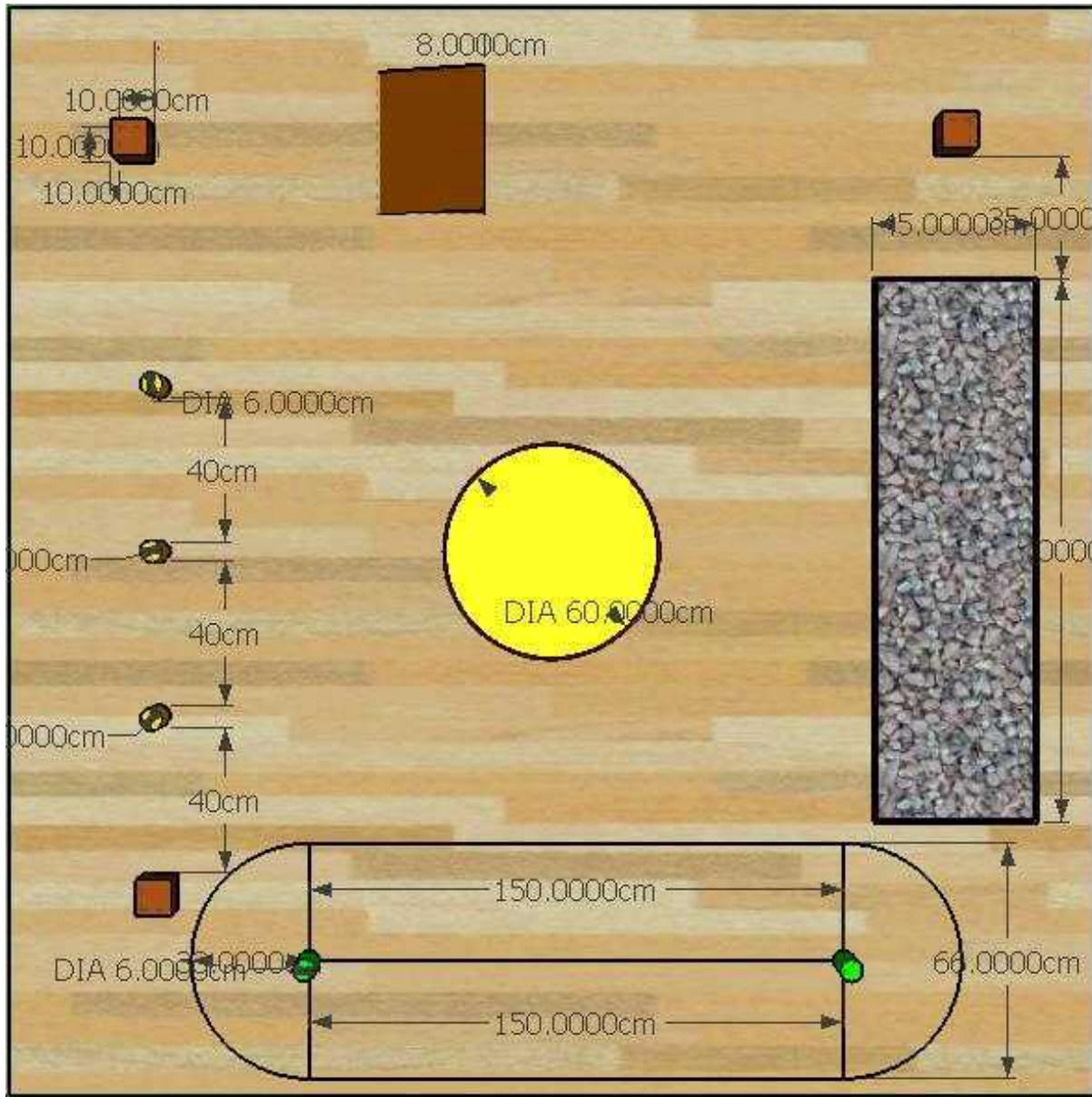


Fig.1 Top View

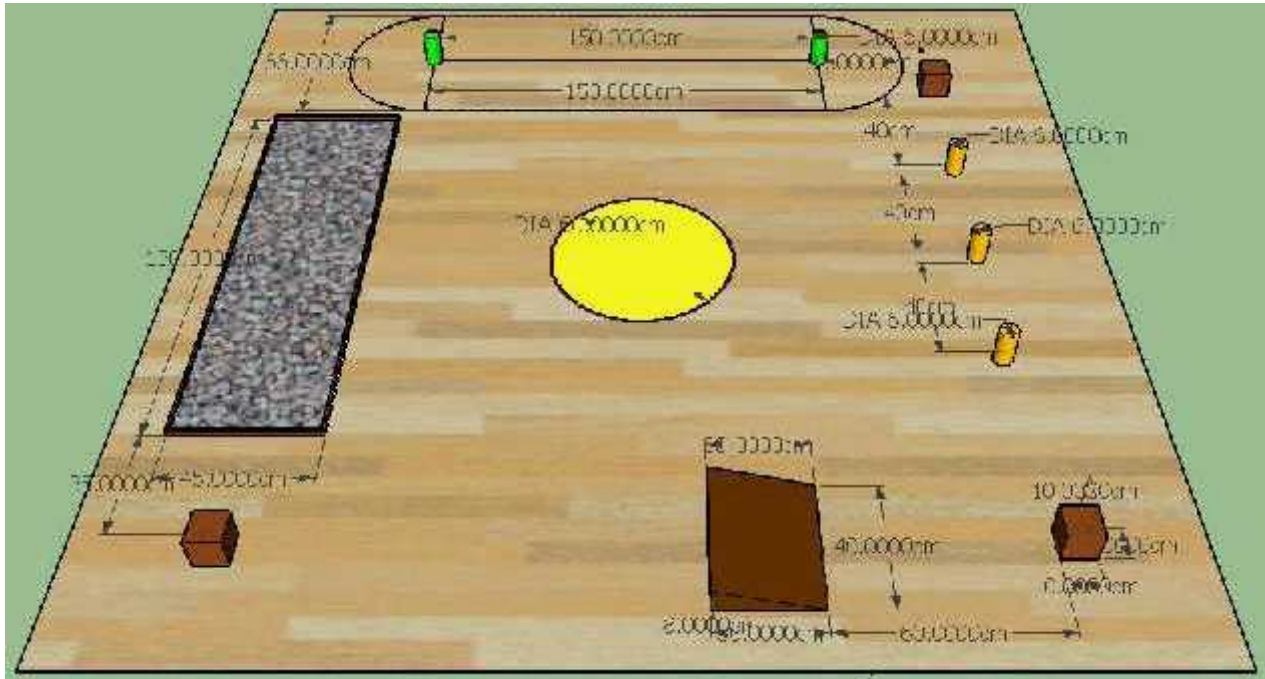


Fig.2 Side View

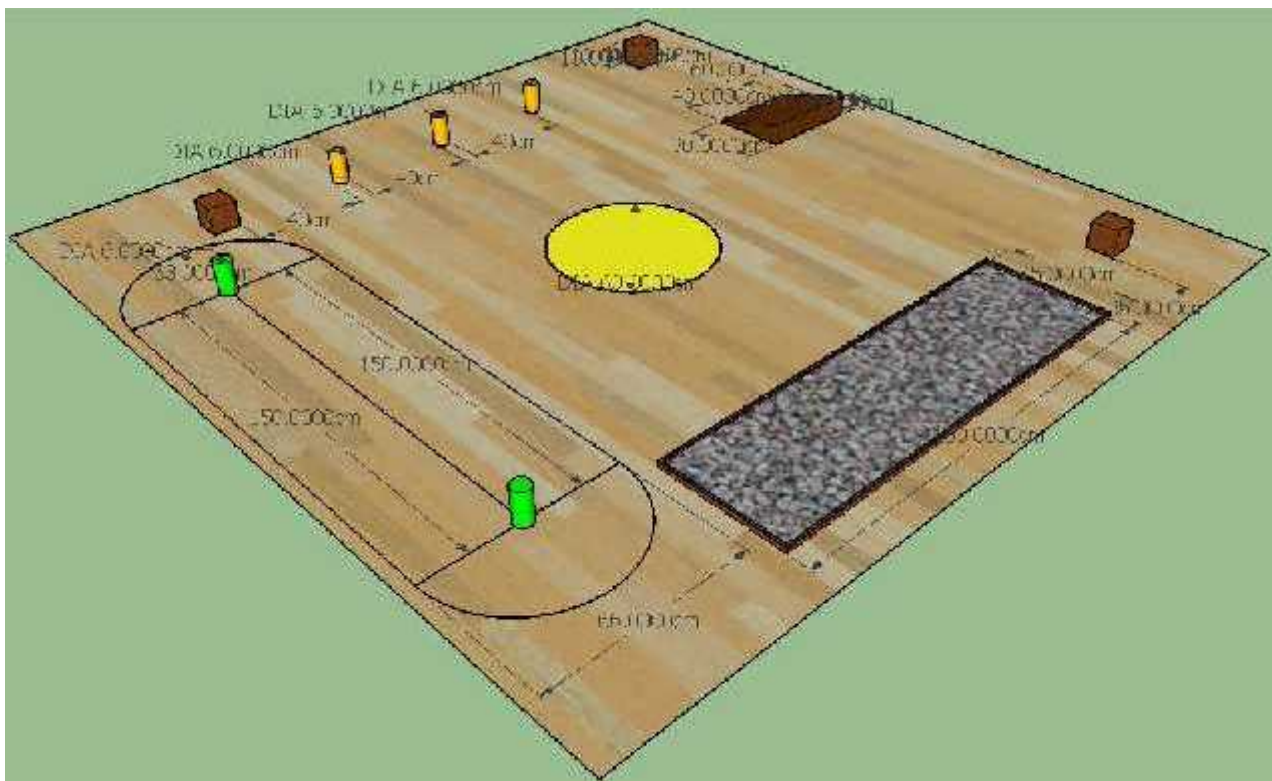


Fig.3 Isometric View

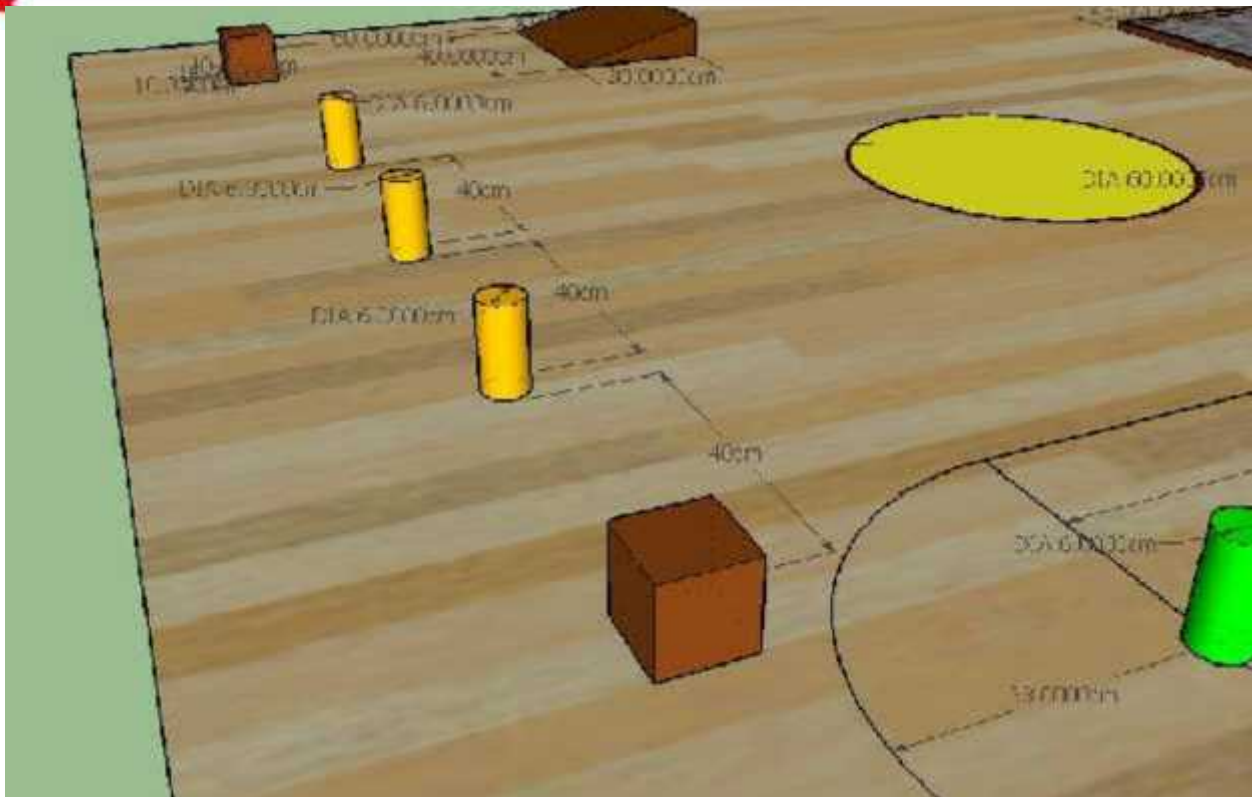


Fig.4 Zig-Zag Hurdle

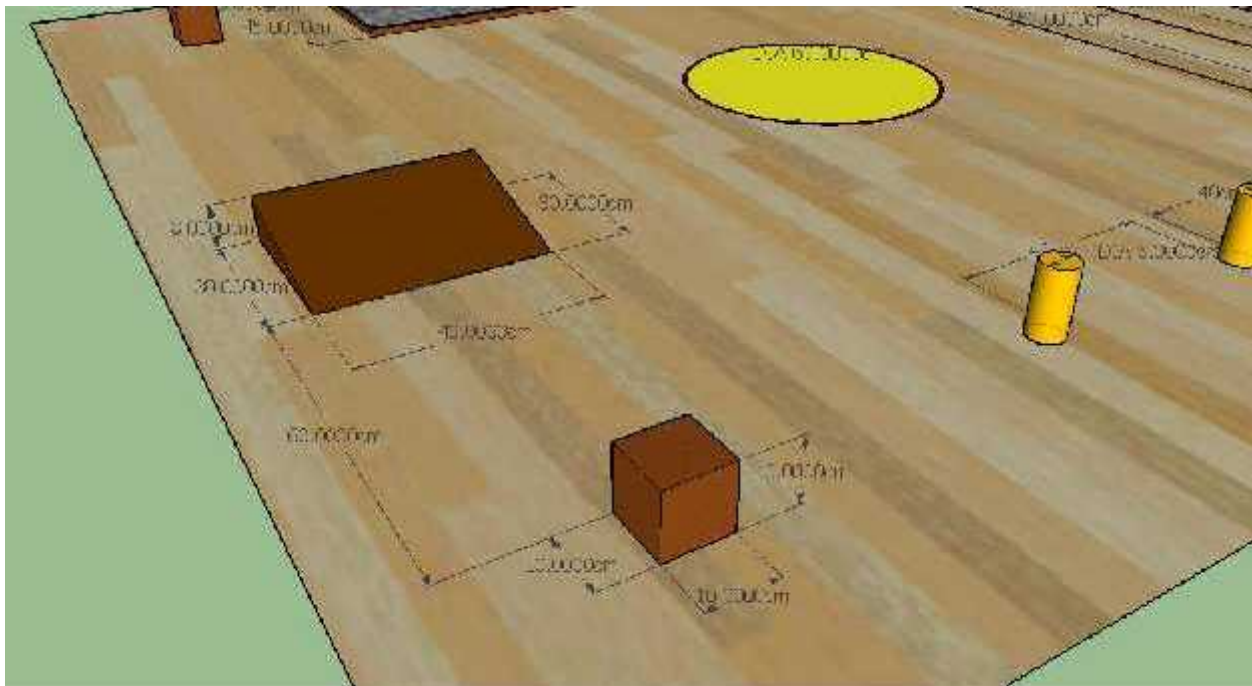


Fig.5 Jump and Conquer Hurdle

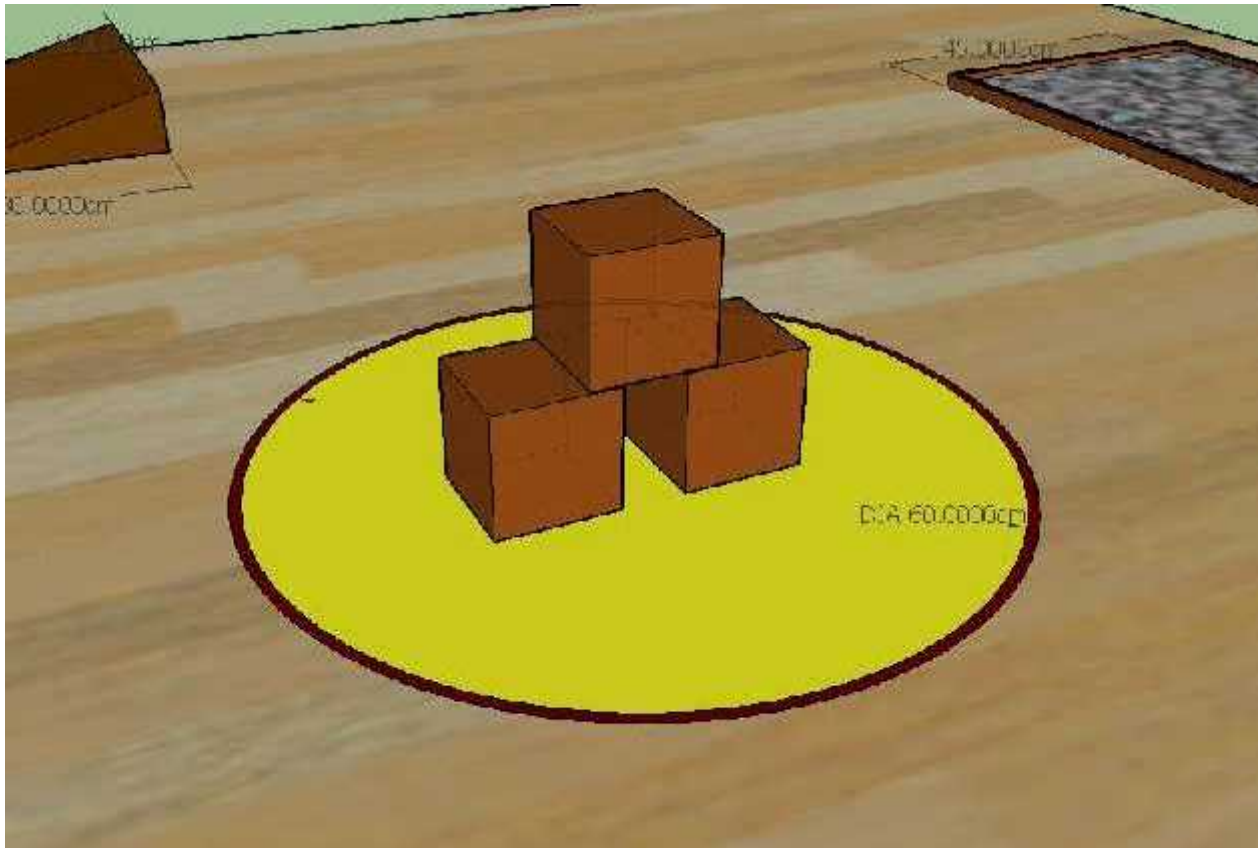


Fig.8 Pyramid

GAMEPLAY:

- 1) The bot must start from the 'Construction Zone'. The bot will be placed at the center of the arena (yellow circle) as the Starting Point.
- 2) The bot can move freely all over the arena. The bot has to move towards any of the block placed in the arena and carry it to the construction zone While passing through the obstacle placed adjacent to the block picked.
- 3) The bot must place the carried block in the construction zone to clear a checkpoint.
- 4) The bot has to repeat the process for all the blocks.
- 5) The three blocks must be placed in the construction zone such that they form a pyramid (see fig.8)



6) A **Bonus track** is also provided in the arena named as '**Burn a Lap**', in which the bot must start from one pole of the track, race towards the other pole and take an outer curve around the other pole and then come back to the starting pole. This whole task must be done in a **one continuous run**, i.e. the bot should not come to a halt during the task.

7) Finally, the bot must come out of the arena to end the **Timer**.

Note : you will get only one attempt to perform 'Burn a lap'. This task is optional but will get you extra points if done successfully.

HURDLE'S DESCRIPTION :

(A) Zig-Zag / Move like Messi- There are 3 Cylindrical Poles (Yellow Color Poles), through which the bot has to Zig-Zag.

(B) Jump the Ramp/ Jump and Conquer- A 15-degree inclined Ramp Assembly with a jump height of 8 cm has to be cleared holding the block.

(C) Debris Box- It is a box that can contain **Anything**, for example- Sand, Pebbles, Nails, Nut-Bolts, etc. up to a height of 2cm.

BOT SPECIFICATIONS:

- The dimensions of the bot should be less than or equal to 30 cm X 20 cm X 30 cm (L X B X H) at the start of the game failing which the team will be disqualified from the competition. However, the bot can extend its dimension once the run starts. An error of (+5% /5%) is Permitted.
- The bot must be controlled manually.
- Teams can use both wired as well as wireless control mechanisms. In case of wired bots, the length of wire should be minimum 2 meters so that the wire remains slack at any instant of time. If the participants use wireless mechanism, then it is mandatory to use a dual frequency remote.
- The dimensions of the remote are not included in the size constraint of the bot.
- Bot must have an on-board power supply in any case.



- Participants are not supposed to use any readymade Lego components or readymade gripping mechanism. However, the participants are allowed to use readymade gear assemblies. Violating this clause will lead to immediate disqualification of the team.
- Irrespective of the mechanism used, only one person will be allowed to control the bot.
- Failing to meet the above specifications will lead to immediate disqualification.

POWER SUPPLY:

- The participants should use an on board electric or non-electric power supply i.e. the power source should be on the bot itself. The power source must be non-polluting and must satisfy the safety constraints determined by the organizers. In case of non-electric power supply, the participants must get it approved from the organizers beforehand via email. Organizers are not responsible for the inconvenience if the approval is not sought.
- In case of an electric power supply, the voltage between any two points should be less than or equal to 24V DC during the run.
- AC power supply will not be provided and cannot be used in the competition.

GAME RULES:

- The bot would be checked for safety before starting and will be disqualified if found unsafe for other participants.
- Only one team member is allowed to handle the bot. No other team member is allowed to enter the arena.
- The bot will be liable for disqualification if it causes any kind of damage to the arena
- The bot is not allowed to Slide the blocks against the ground except for fine adjustments in the Construction Zone
- Any damage done to the blocks will lead to immediate disqualification.
- Maximum of 5 minutes will be given for each team.



- In case the bot drops the block anywhere outside the construction zone it will be repositioned at its pickup position. There will be no penalty for this. However the bot must go through the hurdle once again before taking the block for construction
- The blocks which are correctly placed in construction zones won't be disturbed.
- The timer won't be stopped during this process.
- Team Member controlling the bot can skip the obstacle/task if he/she wishes. In this case, the team will not get the **Time Bonus** Points.
- In case of any disputes / discrepancies, the organizers' decision will be final and binding. The organizers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any, will be highlighted on the website and notified to the registered teams.

JUDGING:

- 30 points will be awarded for successfully crossing **Hurdle 'A' (Zig-Zag/Move like Messi)**
- 30 points will be awarded for successfully crossing **Hurdle 'B' (Jump the Ramp/ Jump and Conquer)**
- 30 points will be awarded for successfully crossing **Hurdle 'C' (Debris Box)**
- 20 points each will be awarded for placing each Block in the Construction Zone. Thus a total of 60 points will be awarded for placing all the three blocks successfully in the Construction Zone.
- The participants may voluntarily skip any of the hurdle but in this case they will not be given the benefit of time thus scoring T=0 for such cases
- Points will be awarded only once for crossing any obstacle. Points will not be awarded if the bot crosses the obstacle multiple times.
- 50 Points will be awarded for successfully completing the task of 'Burn a Lap'.
- An extra 40 Points will be awarded for forming the Pyramid in the Construction Zone.
- In case the bot falls/topples/ crosses the arena, then 10 points will be deducted and the bot will be placed at the center.



SCORING:

- A = Total points scored
- P = Penalty
- T = [max(0 , 300 -Time time take to complete in seconds)]
- Total points scored = A + T - P
- The team with maximum points will be the winner.

TEAM SPECIFICATIONS:

- A team may consist of a maximum of 4 members.
- Students from different educational institutes can form a team.

ELIGIBILITY:

- All students with a valid identity card of their respective educational institutes are eligible to participate.

CERTIFICATE POLICY:

- Top three teams from Each Zonal Qualifiers will qualify for the Grand Finale of Convolution 2018 which will be held during February 2018.
- Top three teams in the grand finale will be awarded **Certificate of Excellence**.
- **Certificate of Participation** will be given to all the teams appearing for the competition.

CONTACT DETAILS:

- Avi Agrawal (Event Head, Gauntlet)
Phone No.: +91-9406908227
- Jayesh Bakhshi (Overall Events Head)
Phone No.: +91-9981201333

In case of any query related to Convolution 2018 contact:

support@convolutionrgpv.in

+91-9753815821 (Ashesh Pathak)



QUIZZOLOGIST

FOR REGISTRATION :- <https://tinyurl.com/convolution2018QUIZZOLOGIST>

ABOUT:

Welcome to the fast-paced world of quizzing and trivia!! From entertainment to current affairs- whatever may be your area of expertise; we have a chance for you to prove your unquestionable mastery. With two highly competitive and fun rounds.

FORMAT/EVENT OVERVIEW:

The competition is divided into two rounds.

Round 1- Cross-crypt:

Crossword round. The first 30 teams to complete the crossword correctly get to advance to the next level.

Round 2- Rapid Resolve:

Every team gets a set of clues which lead to a specific answer which may be a company or a famous personality. The top 10 teams which gets the correct answer are then subjected to a rapid-fire round with questions based on that answer. The team which answers the most questions wins.

TEAM SPECIFICATIONS:

- There can be maximum of 2 members in each team
- Students from different educational institutes can form a team.

ELIGIBILITY:

All students with a valid Student identity card of their respective educational institutes are eligible to participate.

CERTIFICATE POLICY:

- The top three teams will get to skip the First round of Quizzologist at Convolution 2018 and given special immunity for the last round.
- Top 10 teams will get a certificate of appreciation.
- The participation certificate will be awarded to all the teams participating in the event.



GENERAL RULES:

- Participants are not allowed to use mobiles or online aid during the competition. The organizers hold the right to check for these devices and their usage and disqualify the team.
- In case of any disputes / discrepancies, the organizer's decision will be final and binding.
- The organizers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website and notified to the registered teams.

CONTACT DETAILS:

- Aiman Meenai(Event Head, Quizzologist)
Phone No.: +91-9754406633
- Jayesh Bakhshi (Overall Events Head)
Phone No.: +91-9981201333

In case of any query related to Convolution 2018 contact:

support@convolutionrgpv.in

+91-9753815821

(Ashesh Pathak)



CODE.IO

FOR REGISTRATION :-<https://tinyurl.com/convolution2018IO-CODE>

Teams are required to solve the real-life problems through coding. Programming skills of participants would be tested.

FORMAT/EVENT OVERVIEW:

- It is a 2-hour coding contest.
- The teams will write codes for solving some of the trickiest numerical problems
- Problems will be based on mathematical intricacies, statistical inferences, physics, seepage, real-life situations and other related stuff.

PROGRAMMING LANGUAGES ALLOWED:

- C
- C++
- Java
- Python

SCORING:

The exact marking scheme will be disclosed later. In case of a tie, the teams that tie will be given a problem and the winner will be decided based on time taken to solve that problem.

ELIGIBILITY:

All students with a valid identity card of their respective educational institutes are eligible to participate in the event.

CERTIFICATE POLICY:

- Top three teams will qualify for the finale and will be awarded Certificate of Excellence for the Zonal round.
- Certificate of participation will be given to all teams (provided they have a non-zero score).



GENERAL RULES:

- The organisers reserve the rights to change any or all the above rules as they deem fit. Change in rules, if any, will be highlighted on the website and notified to the registered teams.
- Note that at any point of time, the latest information will be that which is on the site. The information provided in the pdf downloaded earlier may not be the latest. However, registered participants will be informed through mail about any such changes.
- In case of any disputes / discrepancies, the organizer's decision will be final and binding.
- Participants can bring their own laptops during the competition.
- Contact event head if you want to use any language apart from those mentioned in this document.

CONTACT DETAILS:

- Piyush Panjwani (Event Head, Code.IO)
Phone No.: +91-8602131562
- Jayesh Bakhshi (Overall Events Head)
Phone No.: +91-9981201333

In case of any query related to Convolution 2018 contact:

support@convolutionrgpv.in

+91-9753815821

(Ashesh Pathak)



EUREKA!

FOR REGISTRATION VISIT :- tinyurl.com/convolution2018EUREKA7

Talking on a global scale, people are spending thousands of dollars on buying the right architecture for bitcoin mining, or, let us say, earning cryptocurrencies. Bitcoin, launched back in 2009 has seen a major rise in its value. Only 21 million Bitcoins can be mined and yet the Bitcoin trade is increasing day by day. It has been predicted that the last Bitcoin shall be used in the year 2140. Even though the concept of cryptocurrency came late to India, Indians realized expeditiously that cryptocurrency trading could help them make huge gains.

There is no centralized body or government that controls the flow of cryptocurrencies, then how does Bitcoin trade take place?

THE POKER GAME CONCEPT:

Suppose you are sitting on a poker table and there are millions of other players, let us call these players as bitcoin miners. You wish to transfer 5 BTC to your friend who is sitting on the same table, every other player will come to know that you have transferred 5 BTC to your friend. This is how the data is managed and updated in case of Bitcoins while there is no centralized authority governing the updates. Every player has a ledger and every player voluntarily updates his ledger when any transaction takes place. Every Bitcoin account has two keys associated with it- Private key and Public key.

THE BLOCKCHAIN CONCEPT:

Suppose there are 5 users, A, B, C, D and E. Originally the bitcoin was mined by user A which he then transferred to user B, user B to user C and eventually to E successively. In this whole process the information of each transaction is associated with each bitcoin. The transaction takes place in Blockchain fashion. Hence when this Bitcoin reaches some user Z, it will contain all the information of the previous blockchains as shown below:

A->B->C->D.....->M->N.....->Z

This is how all the information is preserved without having any centralized body for governing the transactions. Do not consider this as complete information, it has been derived from multiple sources and is just an example of how Bitcoin trading takes place.

THE INDIAN PICTURE:

(Report courtesy *Business Today*)

Bitcoin risks: Government warns against cryptocurrency, says don't get trapped

"Weeks after the Reserve Bank of India issued its third warning against the cryptocurrency trading, the Finance Ministry today said that virtual currencies are not legal tender and such currencies have no protection. It said the virtual currencies (VCs) including Bitcoin don't have any intrinsic value and are not backed by any kind of assets. "The price of Bitcoin and other VCs therefore is entirely a matter of mere speculation resulting in spurt and volatility in their prices," the Ministry stated.



The Ministry also said that there was a real and heightened risk of investment bubble of the type seen in Ponzi schemes which can result in sudden and prolonged crash exposing investors, especially retail consumers losing their hard-earned money. "Consumers need to be alert and extremely cautious as to avoid getting trapped in such Ponzi schemes," the statement said.

The Ministry also explained the vulnerabilities in investing in digital currencies. It said the virtual currencies are stored in digital/electronic format, making them vulnerable to hacking, loss of password, malware attack which may also result in permanent loss of money. "As transactions of VCs are encrypted they are also more likely to be used to carry out illegal and subversive activities, such as, terror-funding, smuggling, drug trafficking and other money-laundering acts," the Ministry said.

The Finance Ministry today reiterated that the government or the RBI has not authorized any Virtual Currencies as a medium of exchange. It also made it clear that the government or any other regulator in India has not licensed any agency to work as an exchange mediator. It said: "Virtual currencies are not backed by government fiat. These are also not legal tender. Hence, VCs are not currencies. These are also being described as 'Coins'. There is however no physical attribute to these coins. Therefore, VC are neither currencies nor coins."

This may be the first official warning from the government, the Central Bank has on three different occasions already cautioned the users, holders and traders about the potential financial, operational, legal, customer protection and security related risks that they were exposing themselves to by investing in Virtual Currency including Bitcoin. Earlier this month, the RBI clarified that it has not given any license/ authorization to any entity/ company to operate or deal with Bitcoin or any virtual currency.

Today, the government also made it clear that VCs are not legal tender and such VCs do not have any regulatory permission or protection in India. The investors and other participants who deal with such currency, therefore, do so entirely at their own risk.

The Indian government and RBI are not the only ones to caution investors against crypto currency. Leading financial analysts and economists have also raised a red flag against it. Business magnet Warren Buffett called it a 'real bubble'. Garrick Hilleman, a research fellow at the University of Cambridge's Judge Business School, earlier said: "What's happening right now has nothing to do with Bitcoin's functionality as a currency - this is pure mania that's taken hold."

TASK:

Please cover the following points in your case study:

- Future of Cryptocurrency in Modi Government.
- The long term and short term economic impacts of cryptocurrencies.
- Bitcoin mining in India.
- Cryptocurrencies in general



INSTRUCTIONS/RULES:

- We will not accept any entry beyond the prescribed dates.
- However, we realize that ideas that would be submitted by the teams could be the same, in that case the team which has better explained the idea in the abstract would be submitted.
- The participant can use any platform, for example: Prezi, MS PowerPoint, Video Demonstrations etc.
- If any team found breaching any of the above rules would be immediately disqualified.

TEAM SPECIFICATION:

- There can be maximum of 4 members in each team.
- Team members can be from different institutes but they must comply to the criteria mentioned in the Problem statement under the heading "Eligibility"

ELIGIBILITY:

- EUREKA! Is open to all undergraduates having a valid college ID.
- The Participant could be from any discipline: engineering, medical, commerce, arts, management etc.

CERTIFICATE POLICY:

- Certificate of participation to all the participants qualifying round one.
- Certificate of appreciation to top 10 teams.
- Winner's certificate and prize money to top 3 teams.

GENERAL RULES:

- In case of any disputes, the organizer's decision will be considered final
- The organizer reserves the right to change any or all rules as they deem fit. However, the participants will be notified of any changes via e-mail and/or by any other means.
- **CONTACT DETAILS:**
- Ashesh PAtHak (Event Head, Eureka)
Phone No.: +91-9753815821
- Jayesh Bakhshi (Overall Events Head)
Phone No.: +91-9981201333

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support@convolutionrgpv.in

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