ROBO BHARATI

LITTLE CHAMP INNOVATORS COURSES @ MANIPAL

LEGO Robotics - Pre-Junior Beginner Level I

6-8 Years

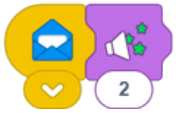
FOR REGISTRATION 9823512880

Eligibility

Children Grade 1 to 3 with curiosity to explore new concepts and enjoy doing hands-on building blocks

Learning Outcomes

- **Mechanical Basics:** Understanding different type of forces like push/pull, Gravity etc., Balance/unbalance weight and friction. Different movements like clockwise/anti-clockwise
- **Software Coding:** Block coding to learn logical sequence, time delay, repeat loop etc.
- **Hardware Interface:** Basic commands to control motor movement, light output and color sensor



Number of Sessions

- **Total 12 Sessions** of 2 hours each

Batch Timings*

9:30am to 11:30am
1:30pm to 3:30pm
4:00pm to 6:00pm

*Batch timings are subjected to availability of slots
*During school days, sessions will be conducted on every Saturday and Sunday
*During school holidays (Summer vacation/midterm vacation), sessions will be conducted on all weekdays

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LITTLE CHAMP INNOVATORS COURSES @ MANIPAL

LEGO Robotics - Junior Beginner Level I

9-12 Years

FOR REGISTRATION 9823512880

Stay Curious!

Eligibility

Children Grade 4 to 7 with curiosity to explore new concepts in Science, Mathematics, Technology and enjoy doing hands-on experiments

Learning Outcomes

- **Mechanical Engineering concepts:** Gear, linkage, pully system, balance/unbalance system
- **Software Coding:** control loops, condition, variables etc.& debugging
- **Hardware Interface:** Coding of controller and its interface like Motors and sensors
- **Execution of project:** representing real-life scenario or solution to real-life problem

Number of Sessions

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LITTLE CHAMP INNOVATORS COURSES @ MANIPAL

LEGO Robotics - Junior Beginner Level II

9-12 Years

FOR REGISTRATION 9823512880

Stay Curious!

Eligibility

Children Grade 4 to 7, having urge to develop more solutions for given problem statements using Software and Hardware tools

Pre-requisite: Completion of Junior Beginner Level I

Learning Outcomes

- **Mechanical Engineering concepts:** understanding of types of energy, energy conversion & transfer and collision
- **Software Coding:** sequences and loops, decompose problems, and improve programs to meet specific needs
- **Hardware Interface:** Develop their ability to generate and debug multiple solution
- **Execution of project:** Develop multiple solution with improved coding and nested control loops real-life solution

Number of Sessions

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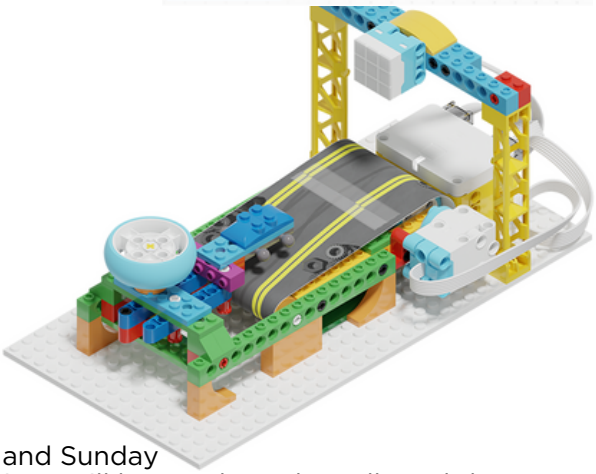

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LITTLE CHAMP INNOVATORS COURSES @ MANIPAL

Electronics & Coding - Junior Beginner Level I

11-14 Years

FOR REGISTRATION 9823512880

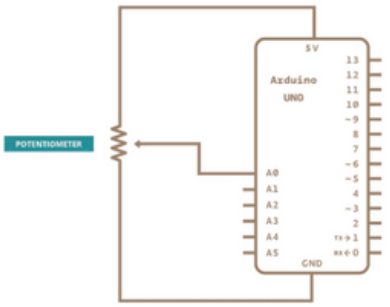
Stay Curious!

Eligibility

Children Grade 6 to 8 with curiosity to explore new concepts in Electrical and Electronics components and controller.
Pre-requisite: Completion of LEGO Robotics Junior Level I & II

Learning Outcomes

- **Identify basic electronics components** like Resistor, Capacitor, Diode, transistor, LED, LCD etc. and its units of measurement
- **Functionality and its application** of basic electronic components in real life world
- **Reading basic electronic circuits** and building circuit on breadboard to test and validate
- **Hardware Interface:** Introduction to Arduino controller, Digital/Analog signals
- **Software Coding:** Basics of Text coding to program Arduino controller



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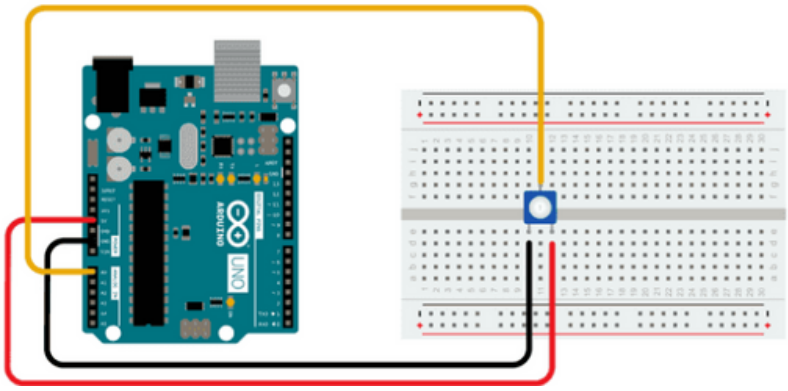

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LITTLE CHAMP INNOVATORS COURSES @ MANIPAL

Electronics & Coding - Junior Beginner Level II

15-16 Years

FOR REGISTRATION 9823512880

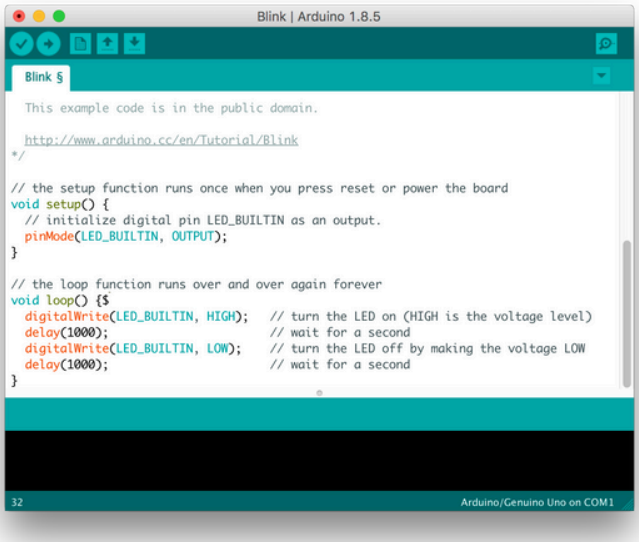
Eligibility

Children Grade 9 to 10 & Completed Level I, and have a urge to explore and test prototypes for real life solutions

Pre-requisite: Completion of Electronics & Coding Junior Level I

Learning Outcomes

- **Writing basic electronic circuits** to achieve desired outcome
- **Hardware Interface:** Identify right Hardware/Electronic components for achieving outcome
- **Software Coding:** Text coding/debugging of Arduino controller to achieve desired objective



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LITTLE CHAMP INNOVATORS COURSES @ MANIPAL

Science & Data Exploration - Junior Beginner Level I

12-16 Years

FOR REGISTRATION 9823512880

Eligibility

Children Grade 8 to 10 & Completed Level I, and have a urge to explore and analyze real time data for science experiments

Pre-requisite: Completion of Electronics & Coding Junior Level I & II

Stay Curious!

Learning Outcomes

- **Functionality of various sensors** like Accelerometer, Magnetometer, Air pressure, UV index, Proximity, Gyroscope, Humidity etc
- **Analyze** real time data for 16 Sensors
- **Introduction to Hardware Interface** of two controllers with LEGO elements and sensors to solve real life problems
- **Introduction to Software Coding** for two controllers and integrating it to achieve desired objectives

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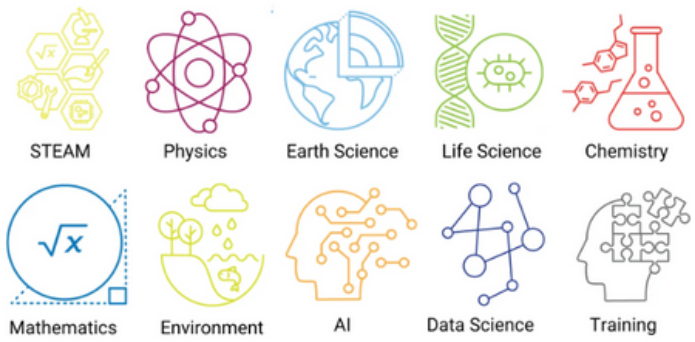

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