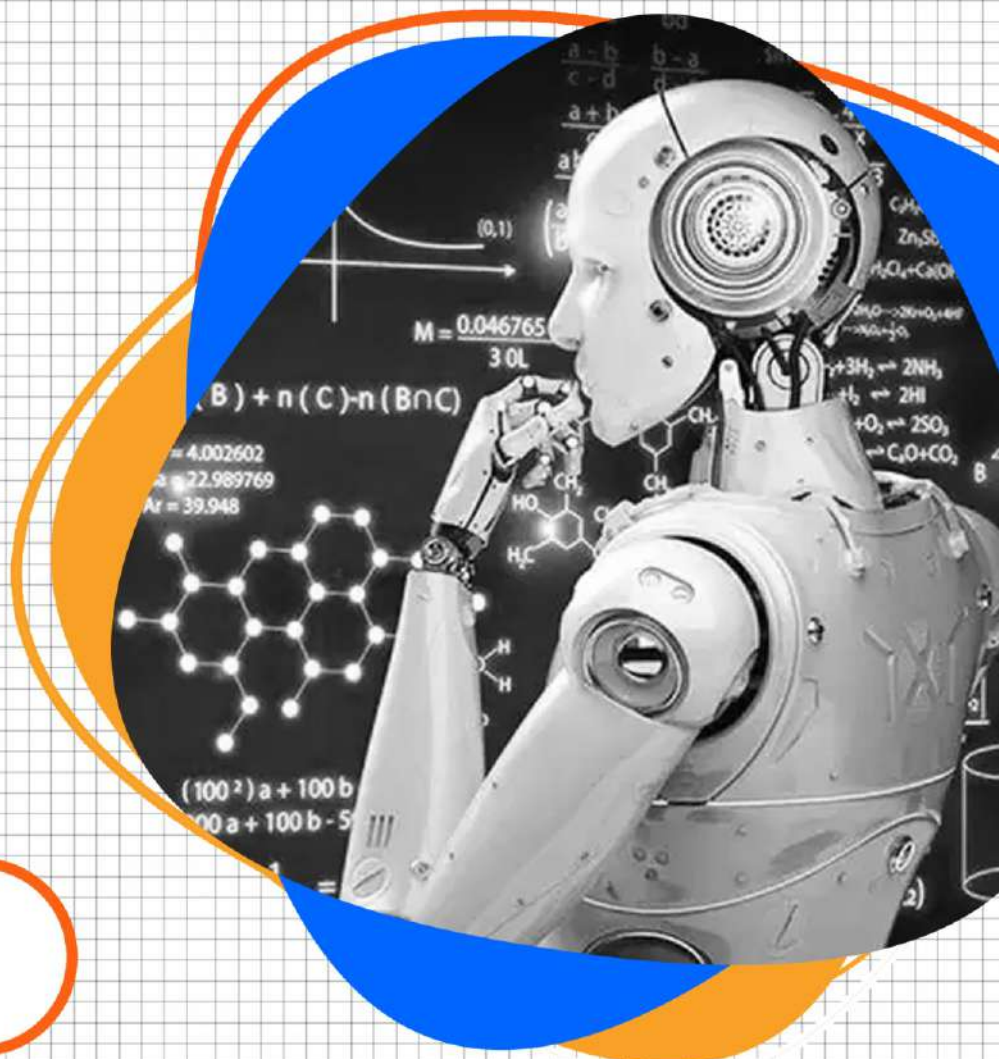




TINKERCODERS
BEYOND CODING

BLOCK PYTHON & AI

GRADE 3-5



COURSE HIGHLIGHTS !

- Live 48 Hours of Sessions
- 48 hours Self Learning Sessions
- Fundamental of Python Programming
- Create Graphics and visual Effects
- Understand complex computer science concepts by intuitively applying Computational thinking
- Computer Vision & Machine learning
- **Build Real World Application like object detection, Facial features detection, Animal detection etc.**
- **LMS Access - Pre-recorded videos, Documents, Assignments, Codes**



Book your
FREE Demo now!

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COURSE REQUIREMENTS



- No coding experience required
- A Mac or Windows Computer
- Access to the internet



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WHAT YOU'LL LEARN IN THE COURSE



**Fundamental of
Python Programming**



**Turtle module for
Graphics designing**



Computational Thinking



**Face, Eyes, Nose and
Smile detection**



**Object detection using
computer vision**



**Custom
Model using
Machine learning**

Geometrical Shape - I (Square, Triangle)



START



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Beginner

Grade 3-5



Geometrical Shapes - II

- Use of Motion blocks and turn left or right

Archery Target

- Use of Dot Radius to make circle
- Adding Colors



Design Your Sky(Crescent Moon)

- Concept of Pen up and Pen down
- Overlapping of Shapes

Flag Designing

- Coordinate System
- Adding colors to the flag



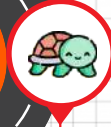
Stick Figure

- Making body of person using control and motion blocks



Hazardous Sign

- Study about different hazardous sign
- Filling shapes with color



Project-1 Smiley Face

- Overlapping of Circles
- Creating boundary of circle

Panda Face

- Making panda using controls & motion



Design a wall clock

- Making clock body
- Changing hand size & width



Olympic Rings with Function

- Function definition & calling
- Adding Parameters like Colour and Size

Captain America Shield with Function

- Making of star



Make wheel with mouse events

- Doing event when button click



Multicolor pattern

- Use of list and its methods
- Use of % and / sign

List Pattern - I

- Repeating of Shapes
- Motion and control blocks



Project - 2 Design PacMan

- Making eye and mouth part
- Adding multiple sprite

Print statement, data types

- Introduction to Python

**Display week days**

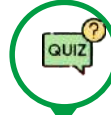
- Use of If else
- Different type of operator

**Think a number**

- Variable declaration and definition
- Updating variable value

Quiz

- Use of math block
- Type conversion in python

**Design calculator**

- Introduction to Math block
- Adding numbers

Print counting number & table

- Introduction to Loops
- Implementing for loop

**Factors and LCM of number**

- Use of Conditional Statement
- Iterating for loop

**Project 3 : Find Sum of number and Square till 20**

- Use of range block

Finding Reverse of Number

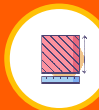
- Use of Conditional Statement
- Splitting the number

**Checking Armstrong Number**

- Finding cube of a number
- Updating sum by adding previous sum

Function Greeting

- Function definition & calling
- Setting parameters for function

**Area of Square and rectangle**

- Passing value in function
- Finding area

Create list & its operation

- Introduction to advance datatypes
- Use of list

**Take out largest data from list and Find Sum**

- Finding Sum of list

Check for party invitants

- Inserting Element in list
- Use of append and delete operation

**Project 4 : Make Age Calculator**

- Addressing Negative sign in month
- Finding age of a person

Create tuples & sets

- Introduction to Tuple and Sets
- Benefit of using tuple sets over list



Visualising Venn Diagram

- Venn diagram and its use
- Adding value in lists



Introduction to Dictionary

- Introduction to dictionary
- Use of Key and value pair



Create a students directory

- Creating empty dictionary
- Working with Key and value



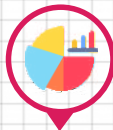
Create quiz using dictionary

- Checking of Key values
- Displaying Values for dictionary



Introduction to Graph

- Graph and Its use
- Different types of graph



Plot Graph

- Study for corona virus live cases



Project 4:- Cricket score Analysis

- Create a list for score
- Player performance in IPL



Introduction to ML and AI

- Application of ML & AI
- Working in different domains



Lets find design shapes (AI)

- Object Detection
- Different Shapes in real life



No Mask no entry (AI)

- Importing Package
- Classification of human



Car Brands Detection(ML)

- Overview of Teachable machine platform
- Adding classes and samples



Emotion Emoji(ML)

- Adding Images for different emotions
- Creating model for emotion detection



Animal Classification(ML)

- Importance of adding more samples
- Detection for dog and cat



Up/Down(ML)

- Checking for output after detection



Project - 6 Pose Detection(ML)

- Showing Images for different Pose
- Making an effective model



END



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HOW THIS COURSE WILL HELP YOUR CHILD

- **CIC approach**

Consumer to innovator to the creator

This course aims to turn the student from a consumer of technology to the creator of technology.

- **Activity-Based learning**

Learn the required programming concepts by performing activities

- **Project - Based Learning**

Learn the required programming concepts by performing activities

Instead of a theoretical and traditional way of learning, students will build projects during the course.

- **Our PBL approach will help student in**

Allows students to acquire key knowledge & skills through the development of projects that respond to real-life problems

Develop critical thinking

Retain the concept

Integration of different concepts

COURSE **OUTLINE**
Beginner

Session Number	Activity name	Learning Outcome
1.	Geometrical Shape - I (Square,Triangle)	Python and its uses Overview of AI connect Motion and changing angles blocks
2.	Geometrical Shapes - II (Rectangle,Dotted Pentagon, Hexagon & Octagon)	Motion blocks like forward and backward Use of for loop Angle values for respective shapes
3.	Archery Target	Use of Dot Radius to make circle Adding Colours Concept of coordinate system
4.	Design Your Sky (Crescent Moon)	Changing Colour Overlapping of Shapes
5.	Italy Flag	Use of position block Adding colors to the flag
6.	Stick Figure	Making body of car using control and motion blocks Use of begin fill and end fill. Use dot radius to make tire
7.	Hazardous Sign	Study about different hazardous sign Filling shapes with color Creating hazardous sign
8.	Project - 1 Smiley Face	Use of forward block to create eye Overlapping of Circles Creating boundary of circle
9.	Panda Face	Making ears, eyes & nose using control blocks Different size of filled circle to make face
10.	Design a wall clock	Making long , short and seconds hand in clock Use of color, width & the position of turtle
11.	Olympic Rings with Function	Function creation Adding Parameters for color and size Logic to make circle using for loop
12.	Captain America Shield with function	Use of functions Dot radius to make concentric circles Motion and angle blocks to make star
13.	Make wheel with mouse events	Doing event when button click Use of mouse click instance to make wheel Logic to make wheels using motion blocks
14.	Multicolor pattern	List & its methods Use of % and / sign Logic to make patterns like square etc
15.	List Pattern - I	Repeating of Shapes Motion and control blocks Math logic to make 3d triangles
16.	Project - 2 Design PacMan	Making eye and mouth part Adding multiple sprite Multiples enemy

COURSE **OUTLINE**

Intermediate

Session Number	Activity name	Learning Outcome
1.	Print statement, data types	Introduction to Python Exploration of AI connect platform Data types and Its use Printing output in console
2.	Display week days	Use of If else Different types of operators Comparing values
3.	Think a number	Variable declaration and definition Updating score Comparing different values
4.	Quiz	Use of math block Type conversion in python
5.	Design calculator	Introduction to Math block Adding numbers Use of conditional statement
6.	Factors and LCM of number	Setting the range for loop Adding multiple item Updating Value of variable
7.	Print counting number & table	Use of / and % sign Converting one datatype into another
8.	Project 3 : Find Sum of number and Square till 20	Use of range block finding square of number Adding sum of square from 1 to 20
9.	Finding Reverse of Number	Use of Conditional Statement Iterating for loop
10.	Checking Armstrong Number	Finding cube of a number Updating sum by adding previous sum
11.	Introduction to function and Create Greet Function	Define function Parameter and argument of function Use of print function
12.	Area of Square and rectangle	Condition for Finding Square Passing value in function Return Type function
13.	Create list & its operation	Importance of List Use of list Various operation in list
14.	Take out largest data from list and Find Sum	Finding Sum of list Iterating element in list Condition for checking each number
15.	Check for party invitants	Use of append and delete Inserting Element in list
16.	Project 4 : Make Age Calculator	Addressing Negative sign in month Finding age of a person

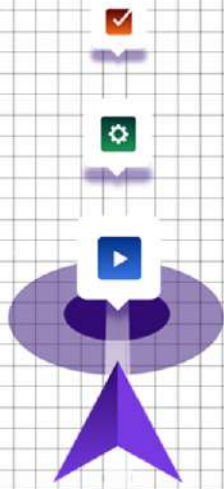
COURSE **OUTLINE**

Expert

Session Number	Activity name	Learning Outcome
1.	Create tuples & sets	Introduction to Tuple and Sets Benefit of tuple & sets over list Different operation involved
2.	Visualising Venn Diagram	Venn diagram and its use Adding value in lists Checking for union, difference etc
3.	Introduction to Dictionary	Introduction to dictionary Use of Key and value pair Getting the value through key
4.	Create a students directory	Creation of empty dictionary Adding Key and value
5.	Create quiz using dictionary	Checking of Key values Displaying Values for dictionary
6.	Introduction to Graph (Single and Double)	Graph and Its use Different types of graph Create list
7.	Plot Graph (No of corona cases vs year)	Study for corona virus live cases Plot a graph for different waves Finding the best graph suits
8.	Project 4:- Cricket score Analysis	Performance of player in IPL Create a list for Score Plotting score in Different Graph
9.	Introduction to ML and AI	Introduction to Machine Learning and AI Application of ML and AI Future Scope of ML and AI Implementaion of ML and AI by leading Industry
10.	No Mask no entry(AI)	Importing Package Classification of human Detecting the face feature
11.	Lets find design shapes (AI)	Object detection Different shapes in real life
12.	Car Brands Detection(ML)	Overview of Teachable machine platform Adding Classes Doing Training, testing and implementing with data
13.	Emotion Emoji(ML)	Adding Images for Different Emotion Creating model for Emotion detection
14.	Animal Classification(ML)	Importance of Muliple Samples detection for dog and cat
15.	Up/Down(ML)	Checking for output after detction Adding condition for each Up/down
16.	Project - 6 Pose Detection(ML)	Showing Images for different Pose Making an effective model



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OTHER COURSES



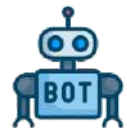
Python
Programming



Artificial
Intelligence &
Machine learning



Android & IOS app.
development





Virtual Robotics



Web
development

FOR MORE COURSES VISIT:

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