

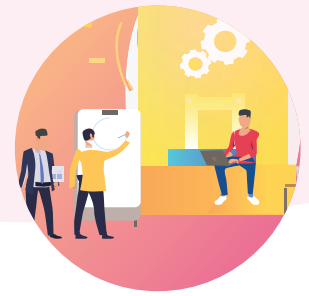


INTRODUCTION TO PYTHON PROGRAMMING

During these classes the students learn the basic concepts of Python programming language. They start programming using blocks with Python commands written on them and gradually shift to text based programming. All programs are written using the Python Turtle library.

SESSION	CONCEPT	SKILLS
01	Drawing Lines	Sequencing Write code in Python to create lines, angles and hollow basic 2D shapes.
02	Drawing Shapes - I	Decomposition Write code in Python to create color filled advance 2D shapes.
03	Drawing Shapes - II	Decomposition Write code in Python to create color filled advance 2D shapes.
04	Cartesian Coordinate System	Numeracy Write code in Python to create drawings at specific coordinates.
05	Project Work	Pattern Recognition, Perseverance And Application Of Learning Practice activities.
06	Formative Assessment	Assessment Of Learning
07	Why Do We Need Loops ?	Pattern Recognition, Logic Explore the need of loops in code. Use basic loops to create art.
08	More About Loops	Pattern Recognition, Logic Explore the need of loops in code. Use basic loops to create art.

Learning Path For YOUNG LEARNERS



09	Practice Activities	Perseverance, Problem Solving Practice activities on loops.
10	Tinkering With Nested Loops	Pattern recognition, Decomposition, Abstraction Write code using nested loops to create complex art patterns.
11	Project Work - I	Pattern Recognition, Perseverance, Algorithms , Code Draw interesting objects using learned concepts.
12	Project Work - II	Pattern Recognition, Perseverance, Algorithms , Code Draw interesting objects using learned concepts.
13	User Input, Variables, Data Types	Numeracy, Logic Write code to create programs that behave according to the user inputs.
14	Conditionals	Decision Making, Logic Write code using conditionals to give specific outputs.
15	Customized Birthday Card	Logic, Creativity Write code to create a customized birthday card while applying all the learned concepts.
16	Functions	Logic, Data Manipulation Learn about functions, need, use, real life examples and create functions using code.
17	Making A Beautiful Landscape	Logic, Data Manipulation , Creativity Use variables and functions to create a complex scenery.
18	Events	Logic, Abstraction Write code to control the turtle using key events.

Learning Path For YOUNG LEARNERS



19	Project Work	Perseverance, Problem Solving, Application Of The Learning Build a Maze Game.
20	Formative Assessment	Perseverance, Problem Solving Assessment of learning.