Learning Path For YOUNG LEARNERS

ADVANCE PYTHON PROGRAMMING

SESSION	CONCEPT	SKILLS
01	Output, Variables And Input - Part 1	**Sequencing, Exploration** Introduction to Python and text based programming. Play with simple command line functions and create a simple chat-bot that prints your bio.
02	Output, Variables And Input - Part 2	**Sequencing, Exploration** Introduction to Python and text based programming. Play with simple command line functions and create a simple chat-bot that prints your bio.
03	Data Types - Part 1	**Numeracy, Logic** Use Python Dictionaries and basic datatypes and create a madlab project.
04	Data Types - Part 2	**Numeracy, Logic** Use Python Dictionaries and basic datatypes and create a madlab project.
05	Operators In Python - Part 1	**Logic, Generalization** Explore kinds of operations in Python to create multiple projects such as "Life in Weeks", etc.
06	Operators In Python - Part 2	**Logic, Generalization** Explore kinds of operations in Python to create multiple projects such as "Life in Weeks", etc.
07	Conditional Flow - Part 1	**Abstraction, Logic, Decision Making** Learn about conditionals and write a code to create multiple projects such as B.M.I. 2.0, Pizza ordering system, etc.

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08	Conditional Flow - Part 2	**Abstraction, Logic, Decision Making** Learn about conditionals and write a code to create multiple projects such as B.M.I. 2.0, Pizza ordering system, etc.
09	**Assessment- I**	**Assessment Of Learning**
10	Lists In Python - Part 1	**Decomposition, Problem Solving** Lists. Indexing and using list & assignment for several practice activities.
11	Lists In Python - Part 2	**Decomposition, Problem Solving** Lists. Indexing and using list & assignment for several practice activities.
12	Lists In Python - Part 3	**Decomposition, Problem Solving** Lists. Indexing and using list & assignment for several practice activities.
13	Random Module	**Step-wise Thinking, Numeracy** Write simple algorithms for number manipulations, generate random numbers, Write a code to create simple dice simulator
14	Practice Challenges	**Decomposition, Problem Solving** Project Activties
15	Introduction To Loops - Part 1	**Pattern recognition , Step-Wise thinking , Logic, Generalization** Understanding loops, using for loops for several practice activities and project building such as fizz buzz challenge, password generator, etc
16	Introduction To Loops - Part 2	**Pattern Recognition , Step-Wise Thinking , Logic, Generalization** Understanding loops, using for loops for several practice activities and project building such as fizz buzz challenge, password generator, etc.

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17	Introduction To Loops - Part 3	**Pattern recognition , Step-Wise Thinking , Logic, Generalization** Understanding loops, using for loops for several practice activities and project building such as fizz buzz challenge, password generator, etc
18	Nested Loops	**Pattern Abstraction, Decomposition** Write a code to create a program for simple digital stopclock - Project
19	While Loops - Part 1	**Pattern Recognition** Understanding while loops and use while loop for several practice activity and create a program for Hailstone Numbers - Project
20	While Loops - Part 2	**Pattern Recognition** Understanding while loops and use while loop for several practice activities and create a program for Hailstone Numbers - Project
21	Game Design Project Part 1A	**Step-Wise Thinking, Creativity, Application Of Learning** Create an Interactive Game - Rock, Paper & Scissior , Turttle Race using the concepts learned.
22	Game Design Project Part 1B	**Step-Wise Thinking, Creativity, Application Of Learning** Create an Interactive Game - Rock, Paper & Scissior , Turttle Race using the concepts learned.
23	Defining & Calling Functions In Python - Part 1	**Abstraction, Pattern Recognition** Learn about functions, need, use, real life examples and create functions using code, defining & calling fuction with parameter for several practice activities and create a program for multiple projects such as building a calculator and import own module.

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24	Defining & Calling Functions In Python - Part 2	**Abstraction, Pattern Recognition** Learn about functions, need, use, real life examples and create functions using code, defining & calling fuction with parameter for several practice activity and create a program for multiple projects such as building a calculator and import own module
25	Defining & Calling Functions In Python - Part 3	**Abstraction, Pattern Recognition** Learn about functions, need, use, real life examples and create functions using code, defining & calling fuction with parameter for several practice activity and create a program for multiple projects such as building a calculator and import own module
26	Events	**Logic, Abstraction** Write code to control the turtle using key events.
27	Game Design Project Part 2A	**Step-wise Thinking, Creativity, Logic** Create an Interactive Game , Write a code to build Game setup & Game logic
28	Game Design Project Part 2B	**Step-wise Thinking, Creativity, Logic, Problem Solving, Perseverance** Create an Interactive Game , Write a code to build Game setup & Game logic
29	Game Design Project Part 3A	**Step-wise Thinking, Creativity, Logic, Problem Solving, Perseverance** Create an Interactive Game , Write a code to build Game setup & Game logic
30	Game Design Project Part 3B	**Step-wise Thinking, Creativity, Logic, Problem Solving, Perseverance, Presentation** Create an Interactive Game , Write a code to build Game setup & Game logic