GKA International Workshop &Training in Python

Four Sessions on: September 3, September 10, September 17, and September 24, 2022

Global Knowledge Alliance (GKA), Australia is pleased to offer **FREE** international virtual Workshop & Training titled, the **Global Trainee Programme in Python** which helps enhance the employability of students by helping them apply their classroom learnings into real world projects along with international certificate of completion.

International Certificates received by each student

On Completion of Training: Joint Certificate from GKA, Australia and iMorph, USA

Workshop & Training Methodology

Focus of 4 week-end Workshops focus on ***"Programming as a tool for thinking and solving problems. The applications include interaction, simulation, computation and building apps."***

In the 4 week-end workshops, students will be assigned a specific project in their area that will be broken down into weekly tasks or assignments to be completed and submitted within the deadlines. They will be assigned a mentor from GKA, Australia & iMarph, USA, who will guide and support them in completing the project and provide them insights and inputs required for success. The mentor will conduct weekly meetings over zoom with the students to monitor their progress and help them with any queries or concerns. The workshops are rigorous and seek to push students out of their comfort zone to learn and deliver their best.

Workshop & Training Fee: FREE. A maximum of 25 Participants based on "First Registered" basis

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Workshop & Training Dates:

September 3, September 10, September 17, and September 24, 2022

The Application Process

Fill the online application form:

https://docs.google.com/forms/d/e/1FAIpQLSerIPz48mCADAoQoR8inuGY1h7lZU71KLoz03AJLcFHWYQMog/viewform

Python Workshop and Training Content

Learn Programming through Examples

Audience

1. Non-programmers or programmers with no practical experience
2. Faculty members from various disciplines (mostly non-computer science)

Course Objectives:

1. Introductory level Python programming
2. Teach concepts through examples
3. Make them comfortable writing small 5-20 line programs within the first day
4. Make programming fun and engaging
5. Demystify programming (take the fear out of it)

How we plan to teach

1. The instructor will start with a single line of code and gradually build programs
2. Participants will follow along
3. After half an hour participants will get a list of exercises to work on based on the examples covered

Session-1: Code along session

1. hello world - first program
2. hello you - a greeting based on your name - input
3. Draw a line - a one line graphical program
4. Draw a square - a sequence of instructions
5. Draw a square with loops - teaches variables, control flow and repetition
6. Draw a square function - shows how to create a function
7. Draw a triangle
8. Convert square function to a function to draw a polygon
9. Draw multiple polygons of same shape
10. Draw multiple polygons of different shapes

Session-1: Practice and Exercises

1. Draw a house
2. Draw a scene
3. Draw an arbitrary shape

Session-2: Code along session

11. convert_temp - convert centigrade to Fahrenheit and reverse
12. convert_units - a generic version of temperature converter for any units. Teaches integers, floating points, function definition, and invocation
13. sum_of_n - the sum of n numbers. Teaches while loop
14. sum_of_range - the sum of a given range of numbers - for loop
15. random_integers - generates a set of random integers - teaching random module and randint function
16. stats1 - given a set of random numbers calculate minimum, maximum, sum, average (also teaches lists)

Session-2: Practice/Exercises

1. Use random number generator to draw shapes
2. Random shapes, sizes, locations
3. Do these objects collide? A simple collision detection program
4. Animations

Session-3: Strings and Things

1. find - find a substring in a string
2. find2 - find a substring using a different function - index

3. lookup - a list to look up numbers and convert them to strings
4. lookup - introduction to dictionaries (a faster way to lookup)
5. words2nums - convert a string describing an amount to its numerical equivalent
6. string2words - splitting a string into words
7. wordfrequecy - calculating the frequency of words given some text
8. histogram - using wordfrequency function print a histogram of words
9. duplicates - removing duplicate words in a string
10. A drawing bot - A simple command-based drawing program

Session-3: Practice/ Exercises

1. Drawbot-2: Expand the drawing bot to include more shapes

Session-4: Data Types

1. Lists - List operations
2. List of Lists - Nested lists
3. Sets - various set operations on lists
4. Dictionaries - Various uses of dictionaries
5. Converting lists to dictionaries and vice versa

Session-4: Practice/Exercises

1. DrawBot 3: Rewrite DrawBot-2 to use lists and dictionaries

Wrap Up

1. Idea Storming session on useful mini projects to work on till the next workshop
2. How to build a useful Micro Application
3. Resources and Support

About Global Knowledge Alliance (GKA)

Global Knowledge Alliance (GKA) is an Australian based global initiative which brings together a Knowledge Community through partnership across the globe. Global Knowledge Alliance is an initiative to connect Academia with Corporate. Global Knowledge Alliance guides students to select the best possible course/degree/college as per their skills and interests. GKA is a signatory to a Memorandum of Understanding (MOU) with Association of Universities of Asia Pacific (AUAP) and an active Member of AUAP. GKA is a dynamic, forward-thinking community of individuals, entrepreneurs, and organizations with a common

cause to actively advance and advocate knowledge development and dissemination through skilling, sharing and exchange for innovative, value-based solutions for a changing world.

The University will create lifelong opportunities for students to learn, develop and grow throughout their careers. Through partnerships with institutions and professional organizations students will start with a strong base of knowledge, then get relevant guidance and specialized help to have them excel in the work world. The “go to” University, will be technologically agile Higher Education Institution, with minimal overhead costs by partnering with other specialized education institutions and Industry to provide both face to face and Online Education on a Global basis for a continuous and lifelong personalized education to students

Contact:

If you have any questions, please contact at: http://www.askdorai.com/