CALL FOR APPLICATION FOR TRAINING ON PYTHON

1. Background

There is no doubt that every institution needs innovative ways of working to enhance its performance. Today's professionals from different fields are at the mercy of an array of technologies. Above all, despite the complexity and dynamic digital change, it is possible for Professional Data Scientists, Business Analysts, and other professionals from different sectors involved in analyzing and interpreting business data for strategic decision-making are highly called for helping their organizations to navigate existing tools to maximize production and propose new ways of working to improve productivity.

It has been well-proven that Python Skills are remarkably relevant in today's data-driven and analytical business environment. Again, Python is not only enhancing individual productivity by also contributes to organizational effectiveness. Therefore, in order to support professionals necessitating Python Skills for diverse data management, cleaning, analysis and reporting purposes, the firm is organizing a month intensive training on Python for the proposed professionals. This training is specifically designed for individuals incorporating data management, data analysis, data visualization into their daily work routines, aiming to provide them with a comprehensive set of skills in the field.

2. Objectives of the training

The general objective of this proposed training initiative is to empower individuals who regularly utilize Python in their professional responsibilities. The training aims to enhance participants' proficiency in Python focusing on data management, data cleaning, data analysis and reporting skills. The overarching goal is to equip them with a robust set of capacities that will contribute to their performance and facilitate positive transformations within their responsible roles and responsibilities. Specifically, this training aims to:

(i)   Introduce participants to the basics of Python programming language, including syntax, data types, variables, and operators
(ii)   Ensure participants understand fundamental programming concepts such as control flow, loops, functions, and data structures in Python
(iii)   Familiarize participants with essential Python libraries and frameworks commonly used in various domains, such as NumPy, pandas, matplotlib, and scikit-learn
(iv)   Provide hands-on experience in using these libraries for data manipulation, analysis, visualization, and machine learning tasks.
(v)   Train participants to solve real-world problems using Python programming techniques.
(vi)   Develop participants' ability to decompose problems, formulate algorithms, and implement solutions efficiently in Python.
(vii)   Provide opportunities for participants to apply their Python skills to real-world projects, fostering creativity, innovation, and problem-solving abilities.

3. Expected Output

At the end of this training, the participants will demonstrate a comprehensive understanding of Python programming language, proficiency in utilizing essential libraries and frameworks for tasks ranging from data manipulation, cleaning, analysis and visualization. The participants will also have the ability to apply problem-solving strategies through pursuing career opportunities and specialization in Python-related domains such as data science, web development, and automation, thereby enabling them to contribute effectively to organizational objectives and excel in their professional endeavors.

4. Content

This training will have four main chapters.

Chapter One: Introduction to Python Programming

- Overview of Python's history and features
- Installation and setup
- Basics of Python syntax, variables, and data types
- Introduction to Jupiter Notebook
- Python syntax and structure: Variables, data types, and operators
- Control flow: Conditional statements (if, elif, else) and loops (for, while)
- Functions: Defining functions, arguments, return values, and recursion
- Strings and String Methods: Concatenation, Indexing, and Slicing; Manipulate Strings with Methods;
- Numbers and Math: Integers and Floating-Point Numbers; Arithmetic Operators and Expressions; Math Functions and Number Methods
- Finding and Fixing Code Bugs: Use the Debug Control Window, Squash Some Bugs,

Chapter Two: Python Libraries

- NumPy: Fundamental package for scientific computing with support for powerful N-dimensional array objects and mathematical functions.
- Pandas: Data manipulation and analysis library offering data structures like DataFrame for efficient data handling and manipulation.
- Matplotlib: Comprehensive library for creating static, interactive, and animated visualizations in Python, widely used for plotting graphs, charts, and histograms

Chapter Three: Data Structures

- Lists, tuples, and sets: Creation, manipulation, and operations
- Dictionaries: Key-value pairs, dictionary methods, and dictionary comprehension
- Nesting, Copying, and Sorting Tuples and Lists
- Sequences and iteration: Working with sequences, slicing, and iterating over data structures

Chapter Four: Data Manipulation, Analysis and Data Visualization

- Introduction to NumPy: Arrays, array operations, and broadcasting
- Data manipulation with pandas: DataFrames, series, indexing, and grouping
- Combining NumPy and Pandas for efficient data manipulation and analysis
- Introduction to Matplotlib: Creating basic plots, line plots, scatter plots, and histograms
- Customizing plots: Adding titles, labels, legends, and annotations to plots
- Exploratory data analysis with seaborn: Creating more complex plots and visualizations

5. Participants

The training targets (i) data analysts; those people responsible for collecting, processing, and analyzing large sets of data. (ii) Business Analysts; professionals involved in analyzing and interpreting business data for strategic decision-making. (iii) Financial Analysts; those working in finance who need advanced Skills for financial modeling, budgeting, and forecasting. (iv) Data analysts and scientists interested in using Python for data manipulation, analysis, visualization, and machine learning to extract insights and make data-driven decisions in their respective fields. (v) IT professionals and system administrators who want to leverage Python for automating system administration tasks, managing infrastructure, or developing tools for monitoring and deployment. (vi) researchers and Scientists who want to use Python for data analysis and visualization. (vii) Entrepreneurs who want to use Python to analyze business data, create financial models, and track performance, and (viii) Non-profit and NGO professionals utilizing Python for data management and reporting. (ix) Individuals seeking career advancement or exploring new job opportunities in fields such as software development, data science, machine learning, web development, or automation, where Python skills are highly sought after. These mentioned categories are encouraged to apply.

Notice: We can provide this training as per institution's request, tailored to their staff and schedule.

6. Date and Venue

This training is scheduled to take place between May 6th - 17th 2024 from 6:00 p.m. to 9:00 pm from Monday up to Friday. The training will be hosted at the office of the firm which is located in the city of Kigali – Nyarugenge district at KN 1 Ave 55 (Near Sainte Famille Hotel).

7. Participation fee and payment processes

The participation fee is 100,000 Frw. Interested applicants are encouraged to pay the participation fees through the following bank details: Bank Account: 20071588001 open in I&M Bank, in the name of The Result Consult Co. Ltd and send bank slip via info@theresult.rw or contact us through 0784979759. For more information, you can always visit us at www.theresult.rw

8. Facilitator

The firm has outsourced a qualified and distinguished professional trainer who is a data scientist by career and by profession.

9. Training methodology and support

The training will be more practical using real examples. Participants are recommended to ask questions that they face in their professional. Participants will be given training materials. Every Friday will be mandatory trainees' self-study that will be supervised.

10. Certificate

At the end of the training, we prepare a practical test and those who successfully pass the test are rewarded with a certificate of completion.

Deadline for application is due May 4th, 2024 at 5 pm Kigali Time

Done at Kigali, April 18th 2024

Sylvain Bikorimana
Managing Director

APPENDIX

The table below illustrates trainings to be conducted between May and December 2024

S/N	Training Courses	Timeline (2024)
1.	Python	6 – 17 May
2.	Advanced Excel	3-14 June
3.	R Programming	18- 28 July
4.	Preparation of Financial Statements for Small and Medium Enterprises	19 – 30 August
5.	Budget Preparation and Financial Forecasting for Small and Medium Enterprises	16 – 27 September
6.	Machine Learning for Data Scientist	7 – 18 October
7.	Data Analysis and Visualization Using Power Query and Power Bi	4 – 15 November
8.	Introduction to Artificial Intelligence and Business Intelligence Solutions	18- 22 November
9.	Data Management and Analysis Using STATA	2-13 December
10.	Developing Data Collection Tools Using KoBo Tool Box	16- 18 December