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CALL FOR APPLICATION FOR TRAINING ON R PROGRAMMIMG

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 R Programming Skills are remarkably relevant in today's data-driven and analytical business environment. Again, R Programming is not only enhancing individual productivity by also contributes to organizational effectiveness. Therefore, in order to support professionals necessitating R Programming Skills for diverse data management, cleaning, analysis and reporting purposes, the firm is organizing an intensive training on R Programming 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 R Programming in their professional responsibilities. The training aims to enhance participants' proficiency in R Programming 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 R 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 R Programming
(iii) Train participants to solve real-world problems using R Programming techniques.
(iv) Develop participants' ability to decompose problems, formulate algorithms, and implement solutions efficiently in R Programming.
(v) Provide opportunities for participants to apply their R Programming 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 R programming language, working with Data and Data Manipulation. The participants will also have the ability to apply problem-solving strategies through pursuing career opportunities and specialization in R Programming 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 R Programming

- Overview of R Programming 's history and features, Applications in data science, statistics, and research, Comparison with other programming languages (e.g., R Programming, SAS)
- Installing R and RStudio: Step-by-step guide.
- Overview of RStudio Interface: Console, script editor, environment, plots.
- Basic R Syntax: Variables, data types, operators, and functions.
- Writing and executing a simple R script.

Chapter Two: Working with Data and Data Manipulation

- Data Types and Structures: Vectors, matrices, data frames, lists.
- Reading and Writing Data: CSV, Excel, and databases.
- Exploring data structures.
- Subsetting Data: Indexing, filtering rows and columns.
- Modifying Data: Adding, removing, and modifying columns.
- Summarizing data using basic functions.
- Vectors: Creation, indexing, and manipulation
- Matrices and arrays: Basic operations and indexing
- Data frames: Creating, indexing, and modifying
- Lists: Creating and accessing elements

Chapter Three: Data Visualization and Analysis

- Introduction to Base Graphics: Plotting basics.
- Customizing Plots: Titles, labels, colors, and legends.
- Descriptive Statistics (Calculating mean, median, and mode, ect.)
- Inferential Statistics (Hypothesis testing: t-tests, chi-square tests; Analysis of variance (ANOVA); Correlation and regression analysis
- Linear and Logistic Regression (Fitting linear regression models; Interpreting model coefficients;
- Time Series Analysis (Introduction to time series data; Plotting and decomposing time series;
- Multivariate Analysis

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) Scientists interested in using R Programming 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 R Programming for automating system administration tasks, managing infrastructure, or developing tools for monitoring and deployment. (vi) researchers who want to use R Programming for data analysis and visualization. (vii) Entrepreneurs who want to use R Programming to analyze business data, create financial models, and track performance, and (viii) Non-profit and NGO professionals utilizing R Programming 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 R Programming 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 July 22nd – 2nd August 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. To facilitate the participants, they may pay in two installments (50% at the beginning and another 50% at the end of the training)

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.

Certificate

At the end of the training, we provide certificate of completion.

Deadline for application is due July 21st 2024 at 5 pm Kigali Time

Done at Kigali, July 2nd 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	July 22nd – 2nd August 2024
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