

General instructions

All necessary files for completing this test are included in the attached folder. Please note, we do recommend the use of R or Python or any other programming language for this test. If not, provide snippets of the processes you undertook using your other preferred non-programming software.

Uganda Population Census 2014, 10 year projections.

Descriptions – This is a dataset containing population projections from 2015-2025 that is disaggregated by district, age and gender. This data is projected from the official 2014 Uganda population census as provided by the Uganda National Bureau of Statistics.

Test instructions – The task associated with this dataset are primarily two;

1. Data Processing, ie cleaning and manipulating the dataset into a data-frame for use in analysis
2. Exploratory analysis and visualization of the data.

The following are steps expected for the task.

- Document the data cleaning processes undertaken to make the dataset ready for use for analysis and visualization
- Create a subset data with total population density for all the districts across years
- Categorize the age groups into 0-17 years,18-25 years,26-35,36-55,56-70,70+
- Is there significant difference in population density across age groups and gender for populations over the age of 55? Which is the oldest district in Uganda in 2020?
- Which are the top 10 youngest and oldest districts 2015 and 2025?
- Plot a static/interactive line chart showing total population density across years (2015-2025) for the 3 districts of your choice.
- Plot a static/interactive choropleth map describing median age across the districts of Uganda in 2022 using QGIS or any other mapping tool you can use comfortably.

The Shelter dataset

Descriptions – The following dataset represents Key response data of an operation carried out in Italy between March and April 2019

Test instructions – To support effective decision-making processes in an emergency operation, kindly provide a summary that is visually attractive by use of graphs/charts/maps and tables where necessary when answering the following questions:

- Describe response operations done across different districts
- Summarize operational sectors in each district
- Summarize response operations done in each sector by each implementing organization
- Summarize response operations carried out across different activities by sectors
- Which district received the most Shelter tool kits

Saving your outputs

Name the folder containing your output using this format (Surname_Firstname_Position_Applied_Task_2020).

Please zip and email back the following:

- The script used to clean the data – provide snippets if you used a non-programming software [save inside **Data_cleaning_analysis** – folder]
- The script used to visualize the data – provide snippets if you used a non-programming software [save inside **Visualisation_analysis** – folder]
- All output files in form of graphs and maps [Save inside **Outputs** –folder]
- A word document/report with the analysis outputs

Note: The analysis script should be replicable: For better evaluation of your work, we should be able to run your analyses scripts and produce the exact same results from our computers. All the best.