SACEMA
DST-NRF Centre of Excellence in Epidemiological Modelling and Analysis

Junior Researcher – Scientific Programming: assessment of technical skills

This exercise is intended to assess technical skills that are required for the position of Junior Researcher – Scientific Programming at the DST-NRF Centre of Excellence in Epidemiological Modelling and Analysis. You should plan to spend 2-4 hours on this exercise.

You have received a zipped file that contains:

- A single python source file with some code
- Input files that the code uses
- Output files that the code generates

Your task is to clean up the mess.

Required steps:

1. Create a new public repository for this exercise. Decide which files to place in it. Set up the repo locally and on GitHub, or a similar collaboration platform.
2. What problems do you see with the code and files provided? Create a system for tracking and resolving these problems – e.g., this could be done via the issues feature on GitHub.
3. Begin solving the organizational problems, and track your progress. For example, if you're using GitHub, create a new commit each time you resolve one of the problems, marking the corresponding issue/s as solved.
4. Submit a link to your public repository by 12:00 SAST on Monday 29 April, via email to jr_sp@sacema.org.

Optional steps (select **at least 2**, and track them using the system outlined above):

- Create a directory hierarchy that reflects the relationships between the files in the projects
- Improve documentation (e.g., through creation of a README file)
- Refactor the source file into multiple files so that each file either solves a specific problem, or is a python module to be loaded as needed
- Add/remove files from repo
- Find out how tests should be written in Python (if you don't know), and write some