Vaccine Administration tracker- ***Academic purposes only***

The Government of Uganda seeks to track administration of COVID-19 vaccines among the citizens. This follows a target of having at least 90% of the population vaccinated for most of the activities to return to normal. The number of dozes which are received in the country are registered in the system. After which, they are distributed amongst the 5 approved health centres based on the need. The needs of the health centres is assessed from the total number of patients who visited the health centre in the past one month if the health centre did not vaccinate. For example, if we are in November, the number of people who visited the health centre in October is considered for that health centre. If there were vaccinations in the past month, the needs assessment is based on the vaccination data. Health centres that received many people get more doses sent to them and vice versa. Hence, equity in the vaccine distribution. If more vaccines arrive when others are available, distribution takes consideration of those that are already available in order to achieve equity.

After receiving the vaccines, the health centres administer the vaccines to people in need and enter the details of each person in the system. These details include the NIN, name, and health centre, date of administration, batch number and vaccine administered. The system in turn presents a printable vaccination certificate for each individual, highlighting the next date of vaccination in case the vaccine requires to be administered twice and based on the recommended period between the two shots in case they are two. A copy of the certificate is saved for future access and for verification purposes.

At a given point in time, if one needs to go for vaccination, they can check in the system to see which health facilities have vaccines and if one prefers a specific type, see which health centre has it. If interested in a given centre, the person books a date, time and place of preference. *Note that not all people book in order to be eligible for vaccination*. Based on the available vaccines at a given time and bookings, the system can advise on the following

- Which centre will have the least queues
- Which centre will have or has the specific vaccine of interest

You are required to the do the following in order to actualize the above functions using JSP and java servlets. The work should be delivered under the following modules**, EACH MEMBER OF THE GROUP ATTACHED TO A MODULE**

1) Health centre administration module, (**package org.health.health**) (Performing registration of health centres, Performing monthly needs assessment for the vaccines per health centre, updating of health centre information and providing the necessary reports)
2) Vaccine inventory module – (Package **org.health.vaccine**) (Performing registration of vaccines received, showing the vaccine inventory status, distributing them to health centres and providing the necessary reports)
3) Vaccine administration module – (**org.health.administration**) (Performing the registration of those that take the vaccines, how far to hit the vaccination target?, certificate access and viewing and other necessary reports)
4) Vaccination Booking and advisory module (**org.health.booking**) – (Performing booking of vaccination time and place preference and advisories and the necessary reports)
5) Systems administration: (**org.health.administration**) – (performing registration and authentication of users (two categories- administrators and patients), send email reminders to

patients a day before their doze, send email when a new batch of vaccines arrive to the health facilities asking them to pick the vaccines from the headquarters (email addresses of the health centre administrators are stored in the web descriptor file)

All database transactions MUST be done with custom tag libraries ONLY. These are the tags to use

i. To select from any table use, <vaccination:select table="" where="" displayformat=""/>

Where displayformat is either list or table and where may be optional

ii. To insert into the table, use <vaccination:insert table="" values=""/>
iii. To update a record, use <vaccination:update table="" where="" newvalue="" />

Instructions:

i. Do the assignment in groups of **5** people, maximum
ii. Each person should work on a module
iii. Write a report (Ms word) indicating the following for the modules - which reports you will have generated and why those reports will be useful and to who, database structure, who worked on which module, github repo link, group names
iv. Deadline – 6th December 2021 – submit on muele before the deadline- only those who will submit will present
v. Presentations to be done in class – each person will present their module. The entire system should be set up on your laptop as you come to present as one system and each member should be ready to explain their code. You can get help from the Internet where necessary