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**MATRIC NO:**

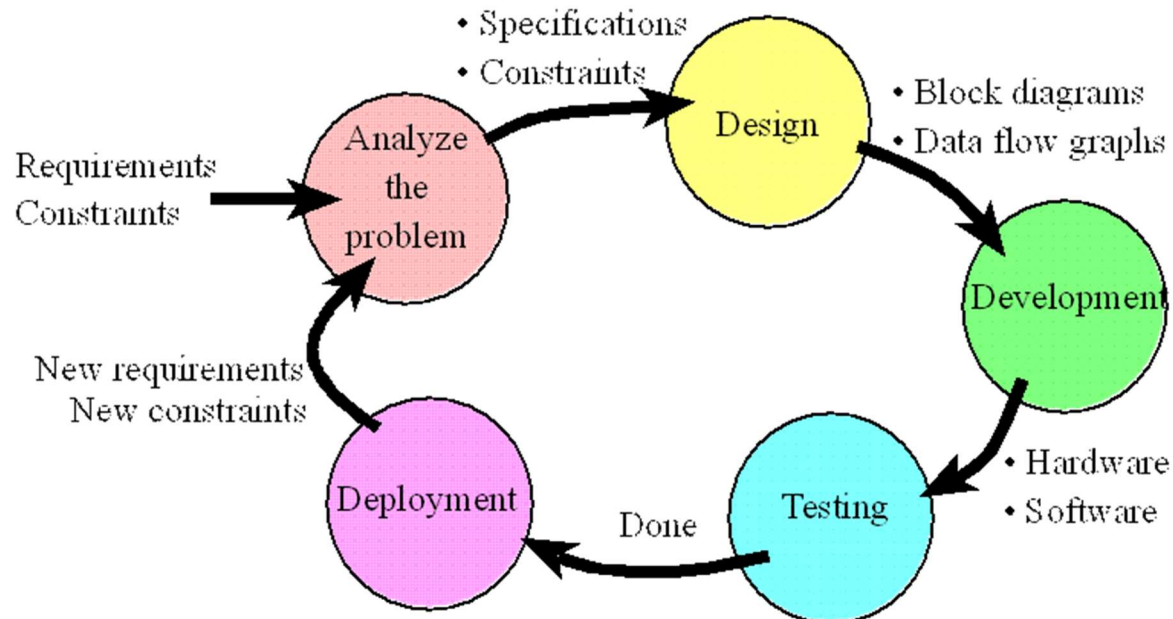
**18/ENG02/031**

**COURSE CODE:**

**ENG 224(ALGORITHM)**

## SOLUTION TO THE CLASSWORK GIVEN BELOW

Below is the software development life cycle of the web application.



We start with the First phase;

### ANALYSIS PHASE:

In this phase, I look at the requirements of the multi-national health company I am working with. They are:-

- A web-based application that is able to detect symptoms and display the presence of COVID-19 virus.
- To enable it to show the degree of infection in a geographical area.
- A database for the transfer and storage of data obtained.
- An Admin to access the data stored inside the database.

Now these are the requirements of our employers and the next is for us to move to the design phase.

## DESIGN PHASE:

In this section, we build a conceptual model of the web application. It is in this model that we exploit as much abstraction as appropriate. During this phase, we make use of algorithms, flow charts, in order to make a model design of the application.

### ALGORITHM

**STEP 1:** START

**STEP 2:** LET CASE 1 = 0

**STEP 3:** LET CASE 2 = 0

**STEP 4:** LET POSITIVE = 0

**STEP 5:** LET NEGATIVE = 0

**STEP 6:** LET TEMPERATURE = 0

**STEP 7:** LET SYMPTOM = 0

**STEP 8:** READ TEMPERATURE

**STEP 9:** IF THE TEMPERATURE > 37, ADD 1 TO CASE 2

**STEP 10:** NOT VALID? THEN ADD 1 TO CASE 1

**STEP 11:** INPUT SYMPTOM DATA

**STEP 12:** IF SYMPTOMS > 1, ADD 1 TO NEGATIVE

**STEP 13:** NOT VALID? CONDUCT COVID-19 TEST

**STEP 14:** IF TEST RESULT IS POSITIVE, DISPLAY COVID-19 STATUS

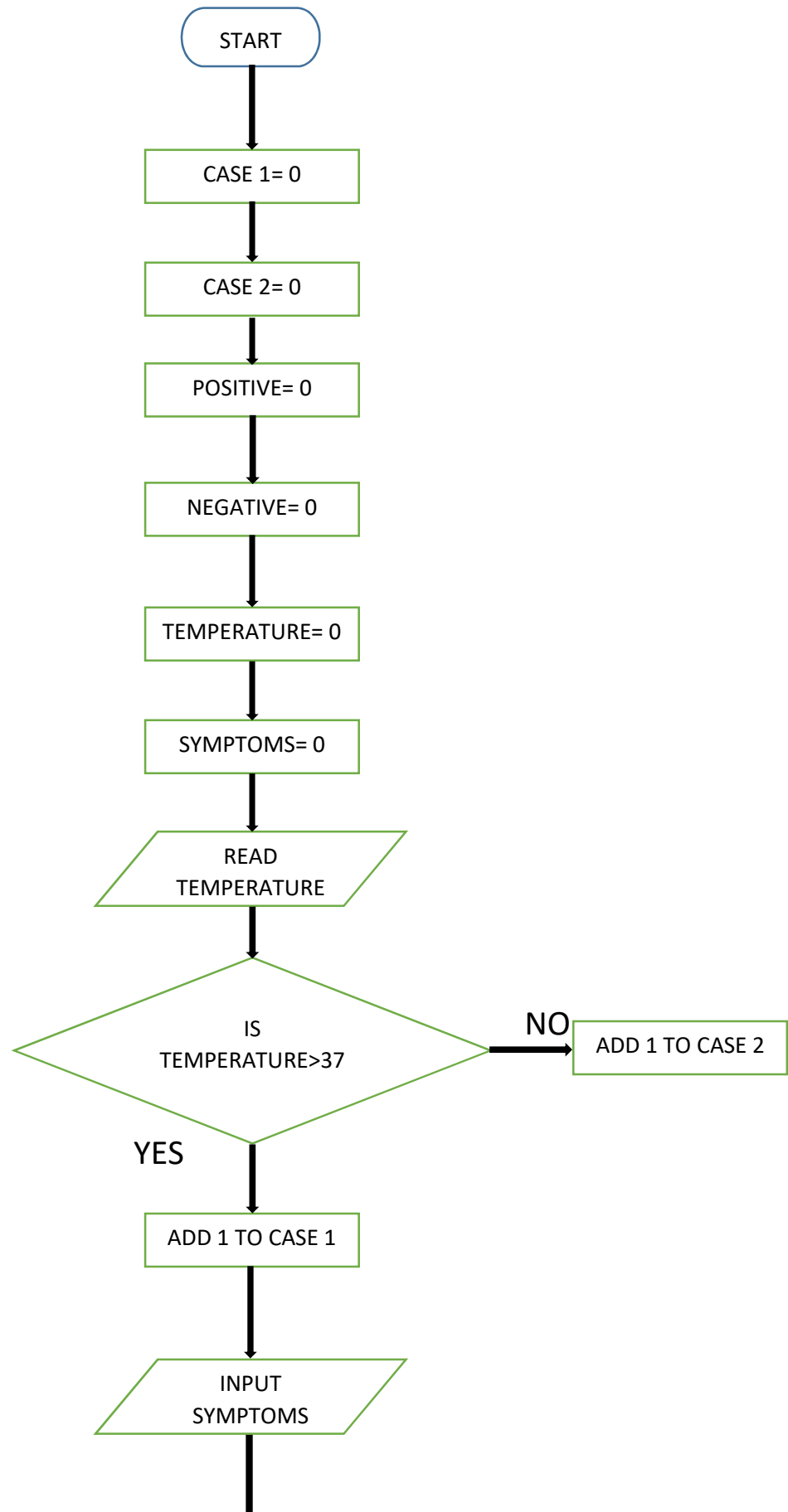
**STEP 15:** NOT VALID? DISPLAY COVID-19 STATUS

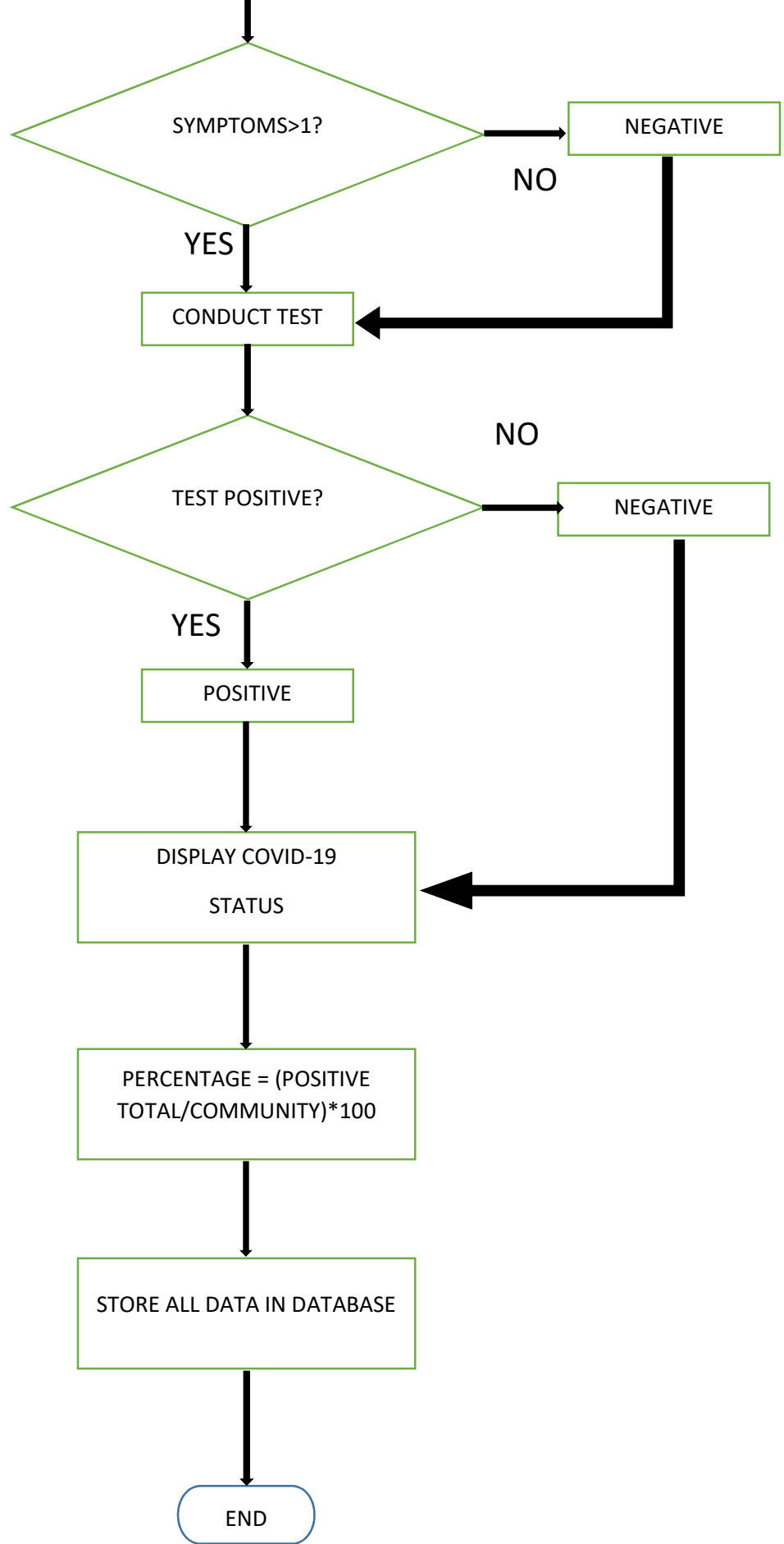
**STEP 16:** CALCULATE PERCENTAGE = (POSITIVE TOTAL / COMMUNITY) \* 100

**STEP 17:** STORE ALL DATA INTO DATABASE

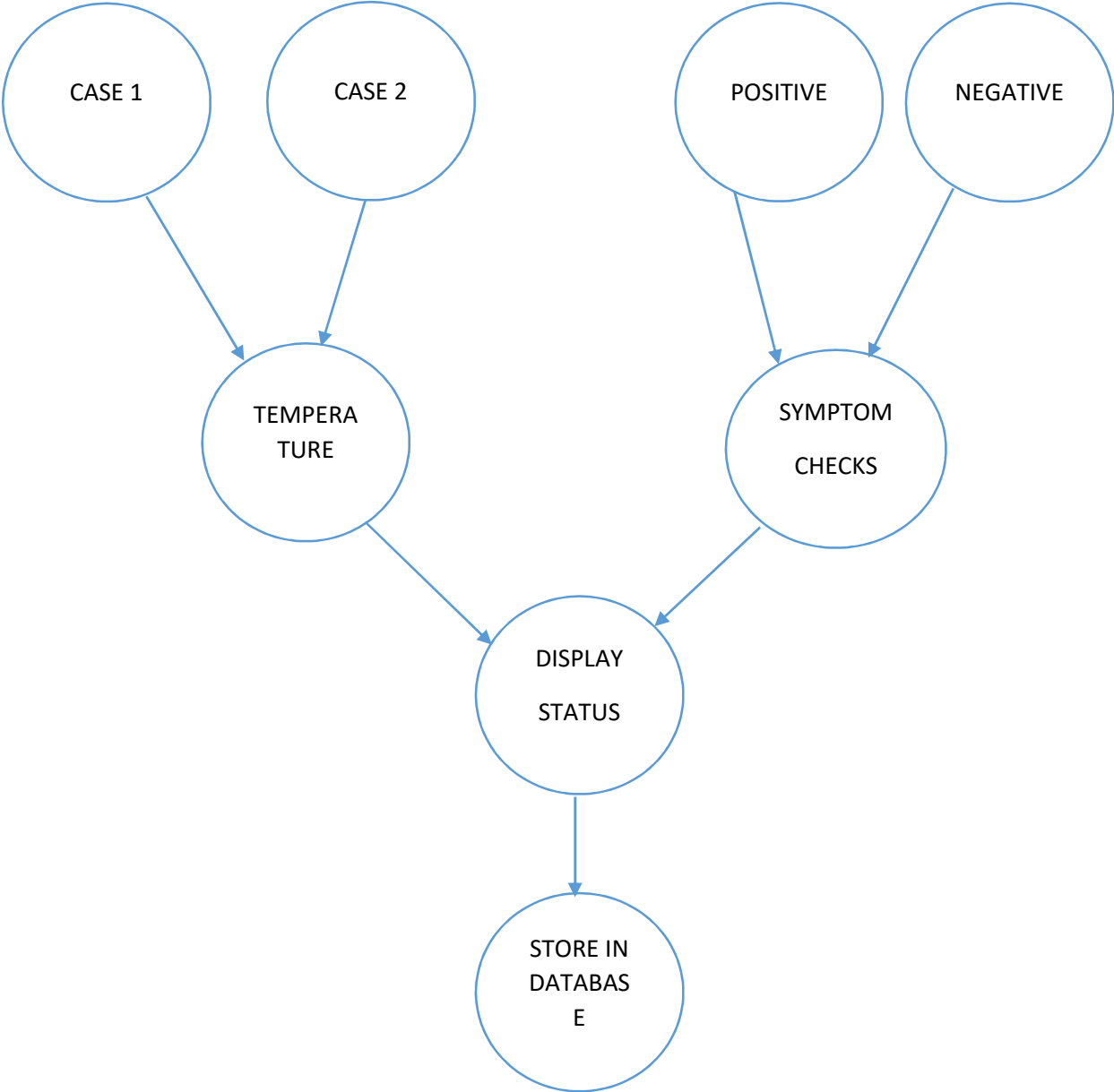
**STEP 18:** END

# FLOWCHART

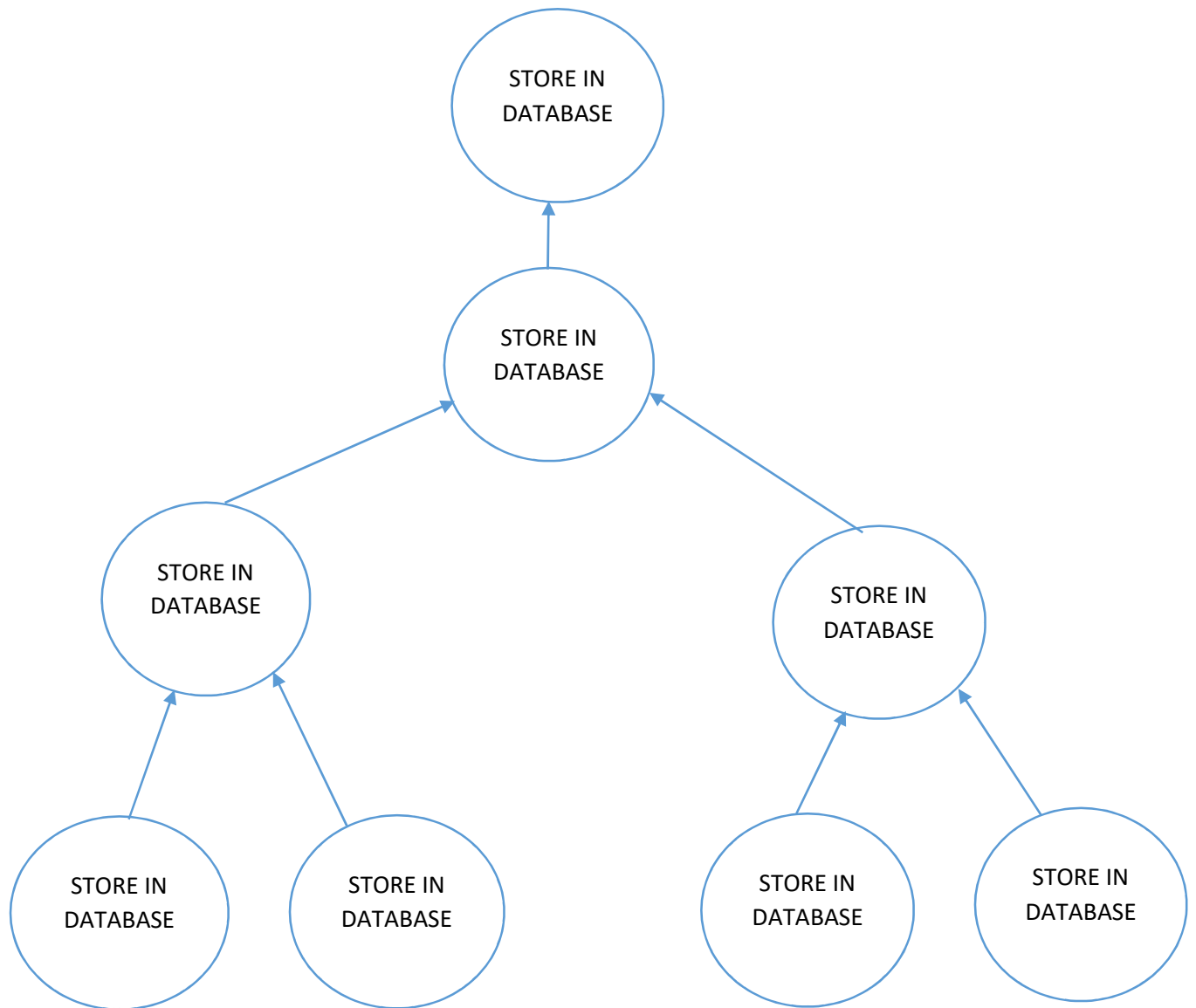




**BOTTOM-UP APPROACH**



## TOP-DOWN APPROACH



So after all these processes, An Admin will be created in order to manage the data stored in the data base.

### DEVELOPMENT PHASE:

This is the phase in which we discuss about the making of the above model into software used by hardware. The application critically requires that it is to be accessed on all platforms. Meanwhile, the software is going to be user-friendly (to be used without difficulties) for the staff in the hospital.

The usage of web development languages are also to be used in making the web application and the database itself.

### TESTING PHASE:

After the application is made, we perform trial and error operations in order to perform debugging.

When the application is ready we now finalize with its deployment.

### DEPLOYMENT PHASE:

This is the final stage of the software development. In this phase we launch our application on to the internet where it can be used freely by the staff