ASSIGNMNENT

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MATRICULATION NUMBER: 18/ENG05/007

DEPARTMENT: MECHATRONICS ENGINEERING

COURSE CODE/COURSE TITLE: ENG224/STRUCTURED COMPUTER PROGRAMMING

ANSWERS

1. Using the software development cycle, the steps are conceptualization, specification, debugging, design, etc. but we are going to focus on conceptualization, specification and design.

   - Conceptualization:

     Speaks more on the subject topic "**COVID-19 WEB BASED APPLICATION**".

   - Specification:

     Talks on the hardware and software materials needed for the successful execution of the application.

     - Hardware:

       Free standing consoles, Swabs, Cartridge, etc.

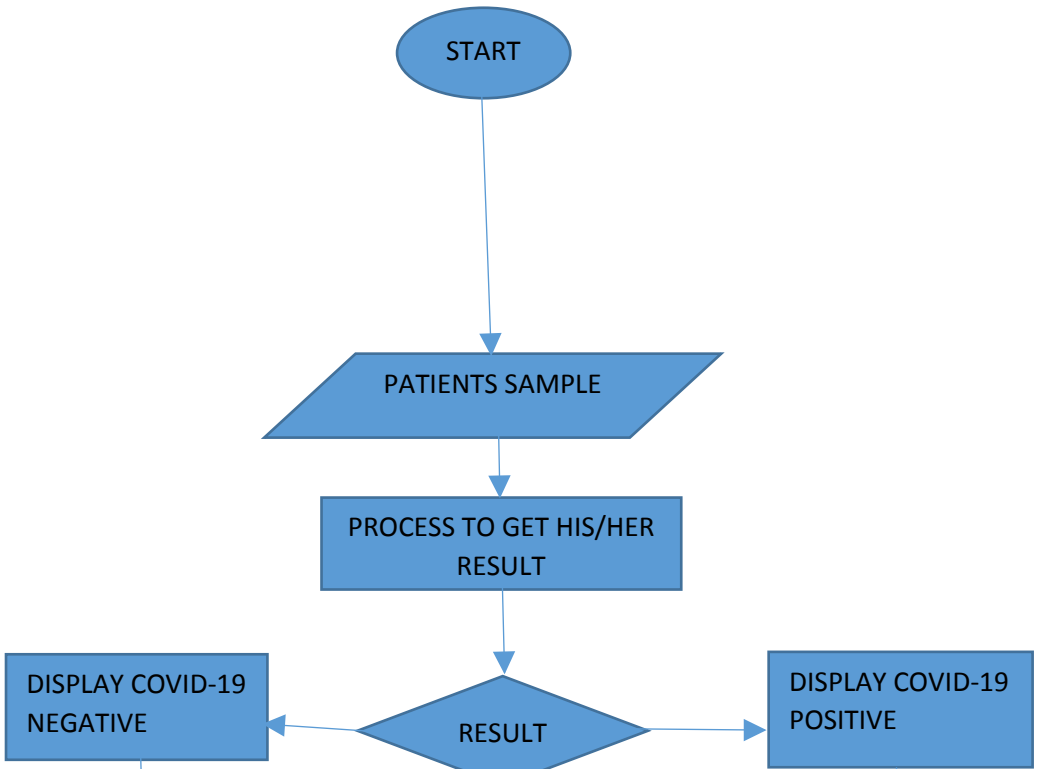
     - Software:

       GUI, Access Control, Storage disk, etc.

   - Design:

     Specifically, about the flowchart and algorithm.

     FLOWCHART:



ALGORITHM:

STEP 1: START

STEP 2: GET THE PATIENTS' SAMPLE

STEP 3: PROCESSING THE SAMPLE TO GET A RESULT

STEP 4: IF RESULT = POSITIVE

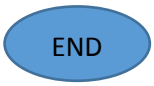
STEP 5: PRINT "COVID-19 POSITIVE"

STEP 6: ISOLATION AND TREATMENT BEGINS

STEP 7: ELSE

STEP 8: PRINT "COVID-19 NEGATIVE"

STEP 9: END.



2.

HARDWARE:

Free Standing Console:

This is used for testing the Swabs.

Swabs:

This is used to take samples from the throat or nose.

Cartridge:

This is where the samples are kept before testing commences.

SOFTWARE:

GUI (Graphical User Interface):

This is like a user interface that allows users to interact with electronic devices through graphical icons and audio indicators such as primary notation instead of text-based user interfaces, typed command labels or text navigation.

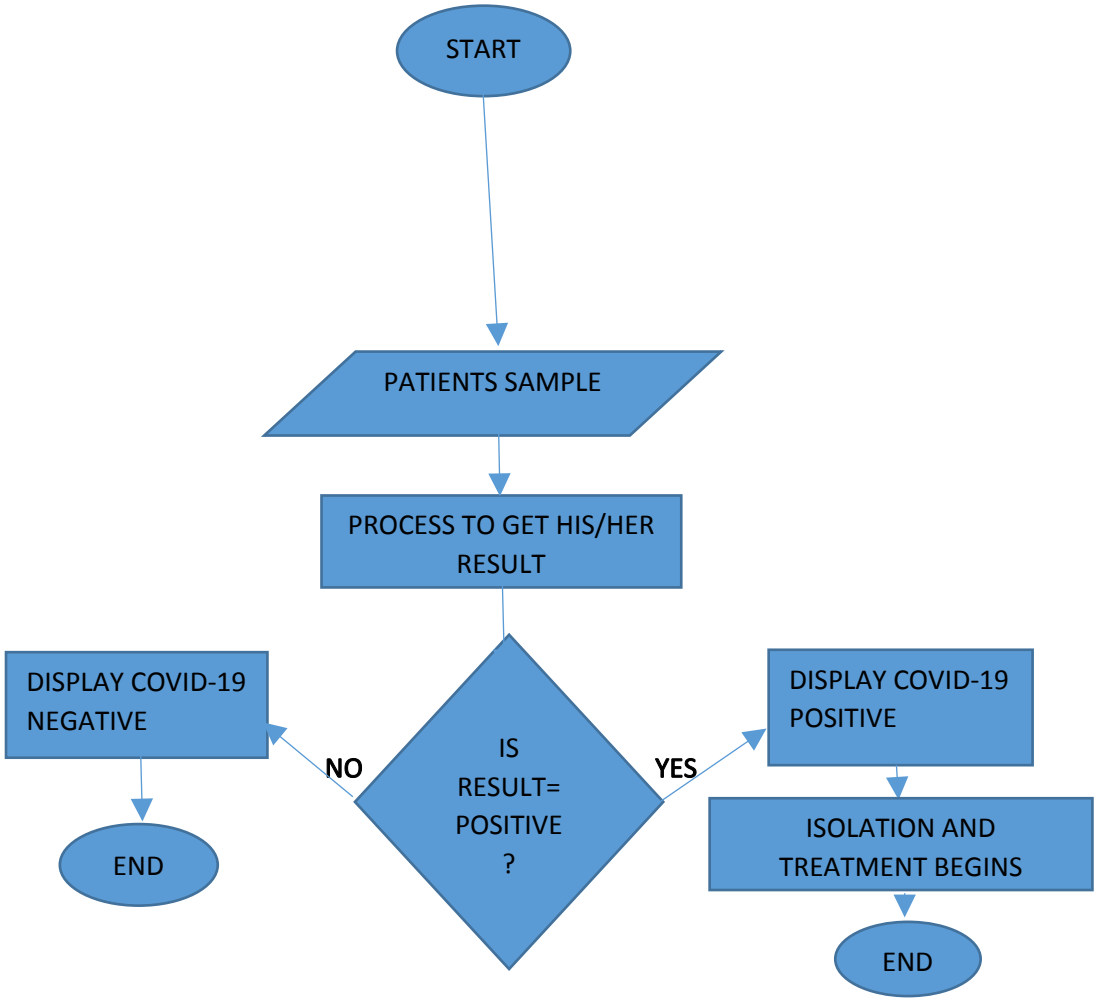
Access Control:

This is used to minimize risk of unauthorized access to physical and logical systems. This is a fundamental component of security compliance programs that ensures security technology and access control policies are in place to protect confidential information like the patients' result.

Storage Disk:

This is a component that stores and retrieves patients' digital data using one or more rapidly rotating platters coated with magnetic material.

3. FLOWCHART:



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4. **BUTTOM-UP DESIGN APPROACH:**