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MATRIC NUMBER: 18/ENG04/026

DEPARTMENT: ELECT/ELECT ENGINEERING

This software will be used to carry some tasks on the farm land like irrigation, like increasing the effectiveness of the irrigation system, knowing the moisture content on the soil, the temperature of the soil that would be done by a thermometer and also give a signal when there's not enough water on the soil or plants.

**CONCEPTUALIZATION:** the concept of this software is to able to tackle the dry seasonal unproductivity in the farm by determining the temperature of the soil and level of moisture content through its acidity and alkalinity also timing the irrigation system to produce water to water the plants and giving alerts when the water level is high or low

**FEAUTURES**

1. A scoop: this is for collation of soil samples from the earth crust
2. Thermometer: this is for determining the temperature of the surrounding and the soil
3. Led display: this would be used to display the various out put the device would give
4. Level gauge: use these tape measures to check the level of water and other fluids in deep, large containers such as tanks and vats
5. Alarm: this alarm would be used to give a signal to the owner or notify him if there is low level of water

**HOW TO FIND TEMPERATURE OF THE SOIL**

Start

Get soil

Read the soils temperature

Print the value of the soil temperature

End

**DETERMINING THE MOISTURE CONTENT OF SOIL**

START

GET SOIL SAMPLE

ADD WATER TO THE SOIL

ADD RED LITMUS PAPER TO IT IF ITS RED

LITMUS PAPER TURNS BLUE

PRINT ALKALINE

ELSE

PRINT ACIDIC

END

**HOW TO DETERMINE THE TIME FOR WATER SYSTEM**

START

READ TIME Y, Z

Y TURN WATER STSTEM ON

Z TURN OF WATER SYSTEM

END

**HOW RO DETERMINE INSUFFICIENT WATER**

START

READ A LITRES

IF WATER IS ABOVE A LITRES

INDICATOR TURNS GREEN

ELSE, INDICATOR TURNS RED

ALARM IS ON

IF WATER IS ABOVE A LITRES ALARM IS OFF

END

**PASS WORD TO SYSTEM**

START

PRINT input PASSWORD

READ INPUT

IF INCORRECT

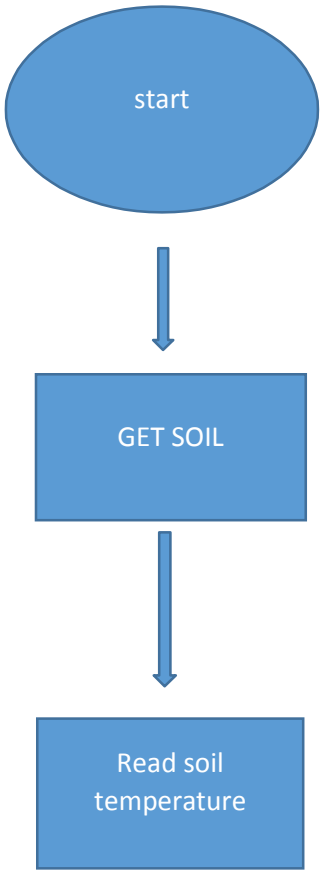
PRINT ACCESS DENIED

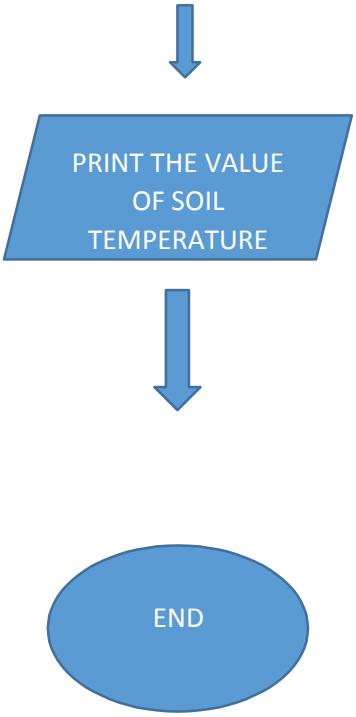
ELSE

PRINT ACCESS GRANTED

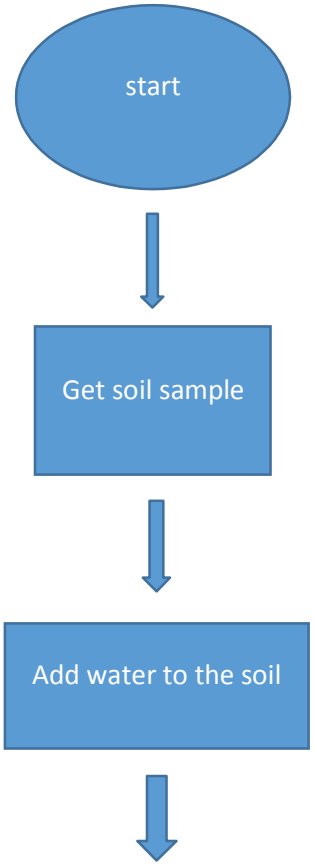
END

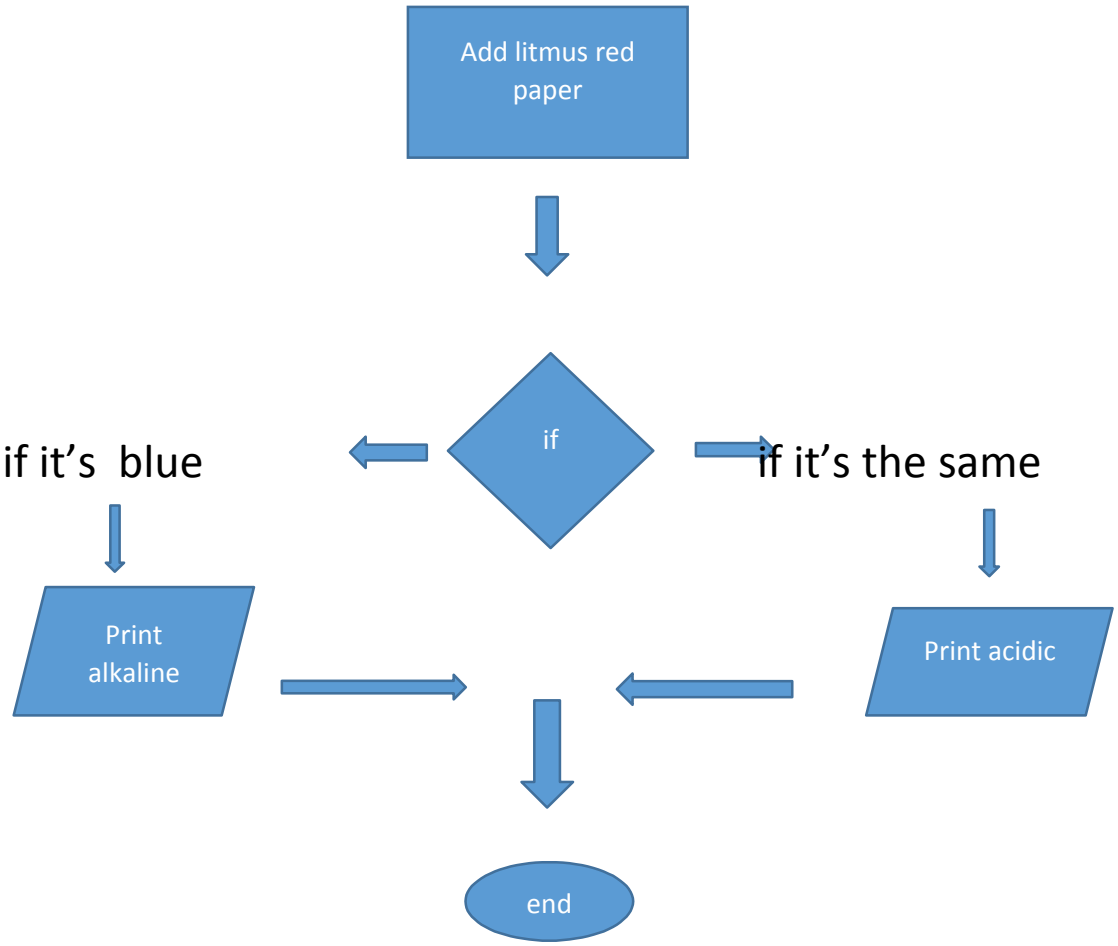
## FLOW CHART FOR DETERMINING SOIL TEMPERATURE



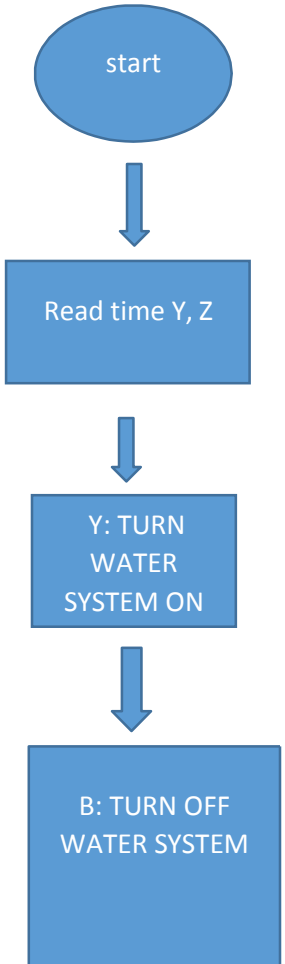


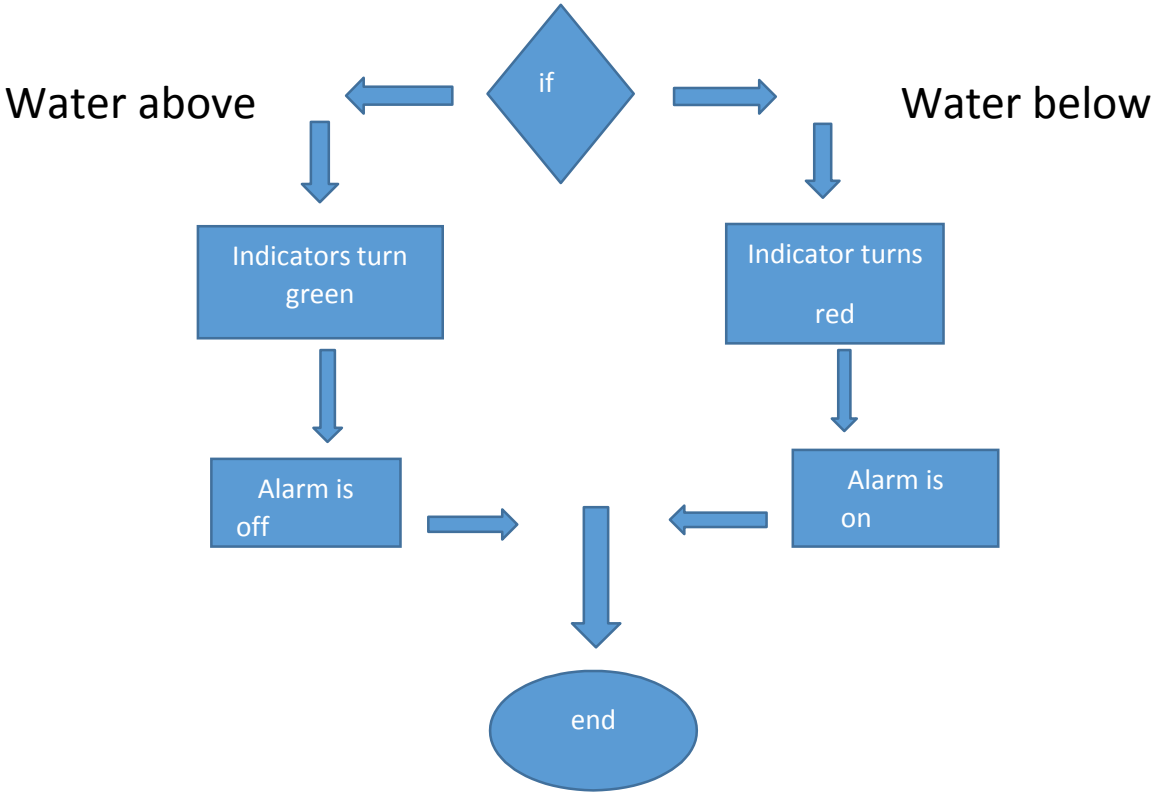

## MOISTURE CONTENT FLOW CHART

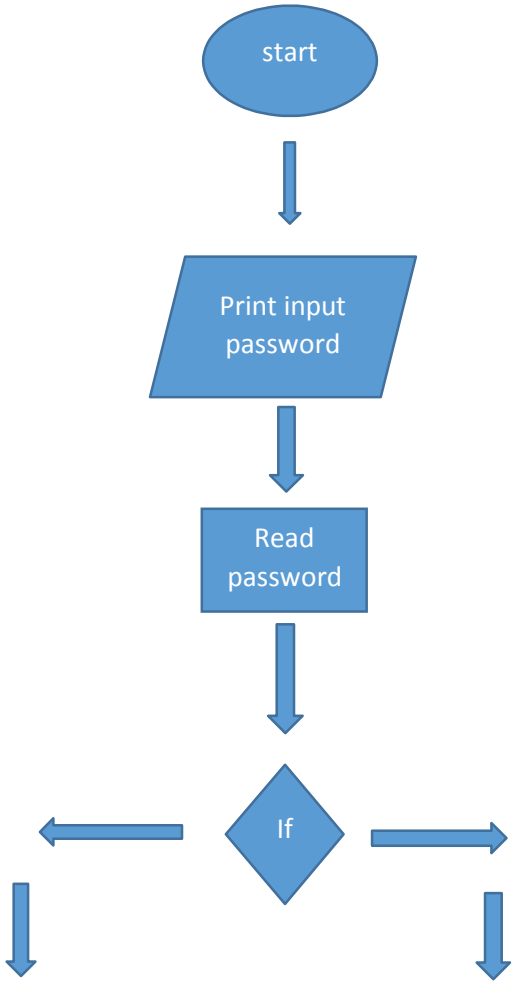


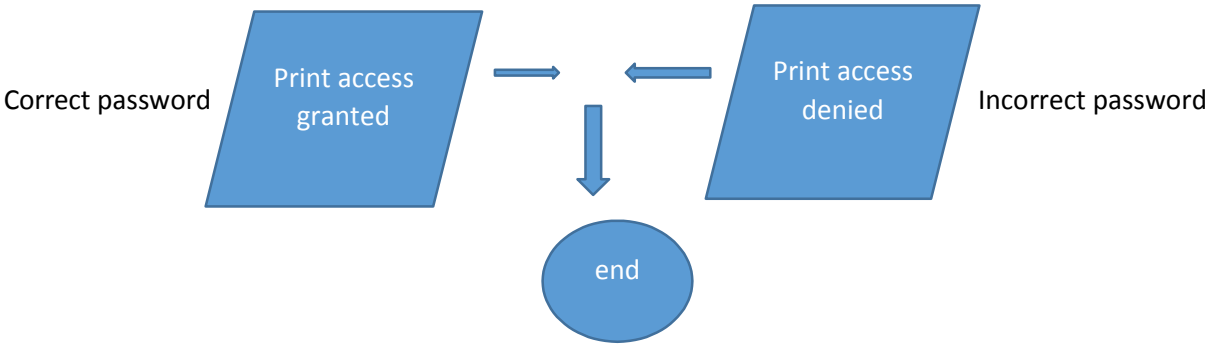


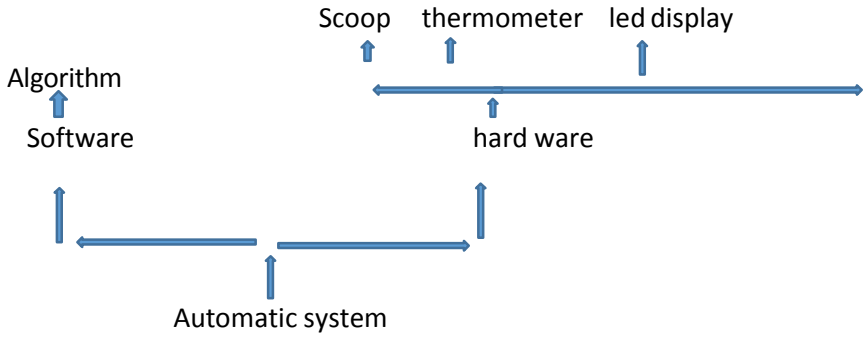

WATER SYSTEM FLOW CHART




Water above
if
Water below
Indicators turn green
Indicator turns red
Alarm is off
Alarm is on
end


start
Print input password
Read password
If




# A BOTTOM UP DESIGN