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DEPT.: ELECTRICAL ELECTRONICS ENGR.

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The software built is intended to interact with the machine which would help by taking the sample of the soil and determining the

1. Temperature of the soil this would be done with a thermometer
2. The moisture content of the soil this would be determined by how acidic or alkaline the
soil is
3. Determine the time interval for the water system to activate the irrigation system
4. Alarm trigger due to in sufficient water in the tank by checking the water level in litres

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

HARD WARE AND SOFTWARE FEAUTURES

This would contain some feature both hard ware and software

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 for example, temperature value
4. Level gauge: This would be installed in the water tank to read the level of water in a tank in litres
5. Alarm: This would be used to alert the owner of low water level in the tank or high water level in the tank
6. Light indicator: This would be used to display how low or high the water level is

DETERMINING THE TEMPERATURE OF THE SOIL

- Start
- Get sample of the soil
- Read the temperature
  of the soil print
  temperature value end

DETERMINING THE MOISTURE CONTENT OF SOIL

- START
- GET SOIL SAMPLE
- ADD WATER TO THE SOIL
- ADD RED LITMUS PAPER TO THE MIXTURE
- IF RED LITMUS PAPER TURNS BLUE
- PRINT ALKALINE
- ELSE
- PRINT ACIDIC
- END

DETERMINING THE TIME INTERVAL FOR THE WATER SYSTEM

- START
- READ TIME A, B
- TIME = A ACTIVATE WATER SYSTEM
- TIME = B DE-ACTIVATE WATER SYSTEM
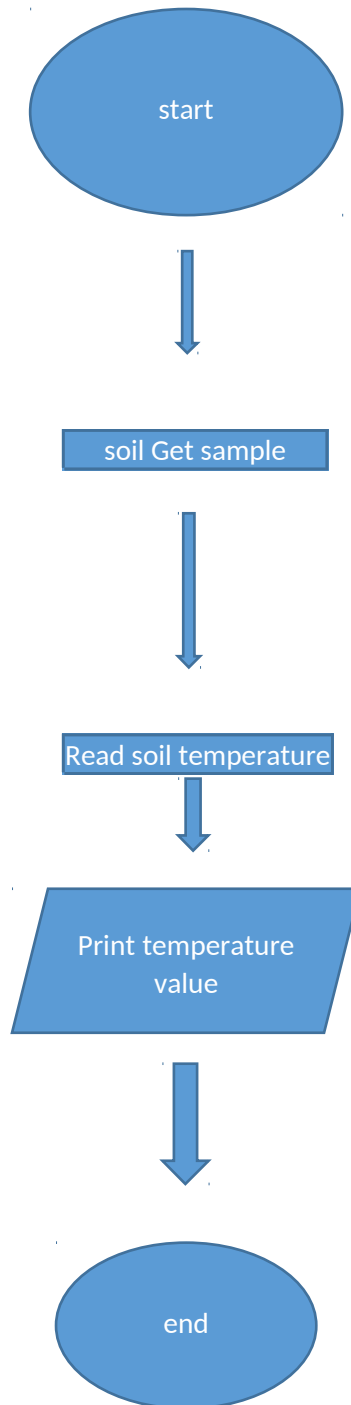- END

ALARM FOR INSUFFICIENT WATER

- START
- READ A LITRES
- IF WATER IS ABOVE A LITRES
- INDICATOR TURNS GREEN
- ELSE, INDICATOR TURNS RED
- ALARM IS ACTIVATED
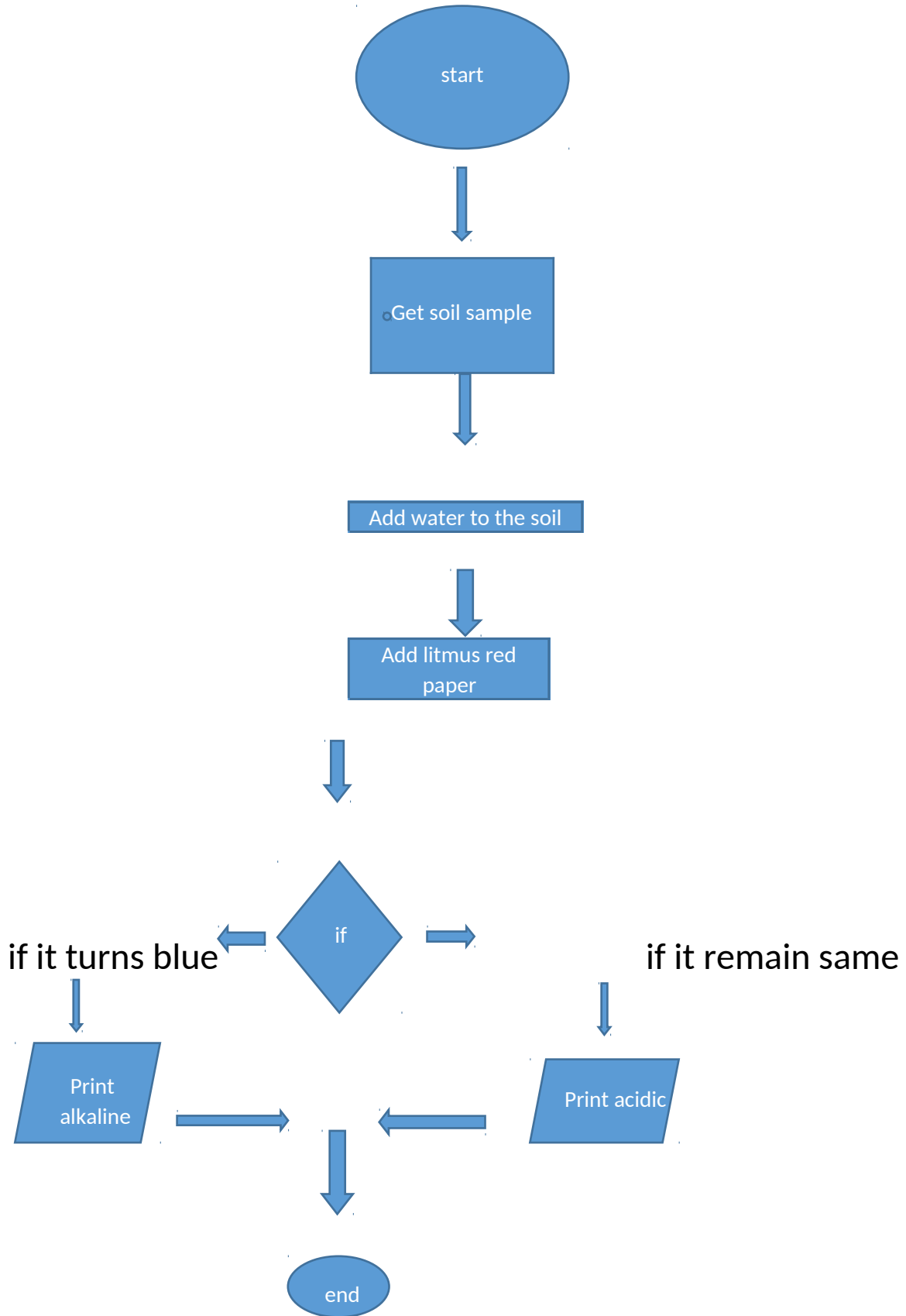- IF WATER IS ABOVE A LITRES ALARM IS DE ACTIVATED

- END

PASS WORD FOR THE SYSTEM

- START
- PRINT input PASSWORD
- READ INPUT
- IF INCORRECT
- PRINT ACCESS DENIED
- ELSE
- PRINT ACCESS GRANTED
- END

FLOW CHART FOR DETERMINING SOIL TEMPERATURE

start

soil Get sample
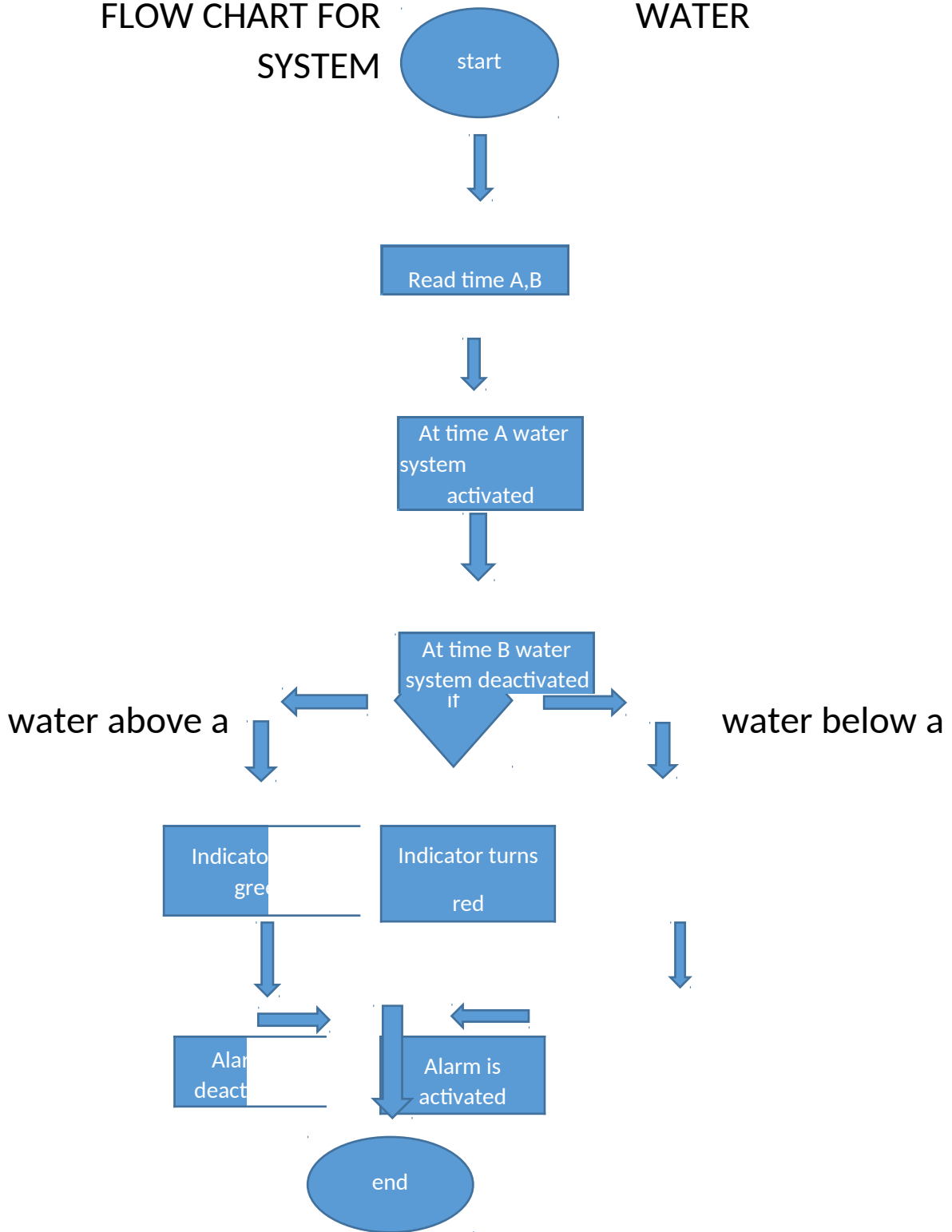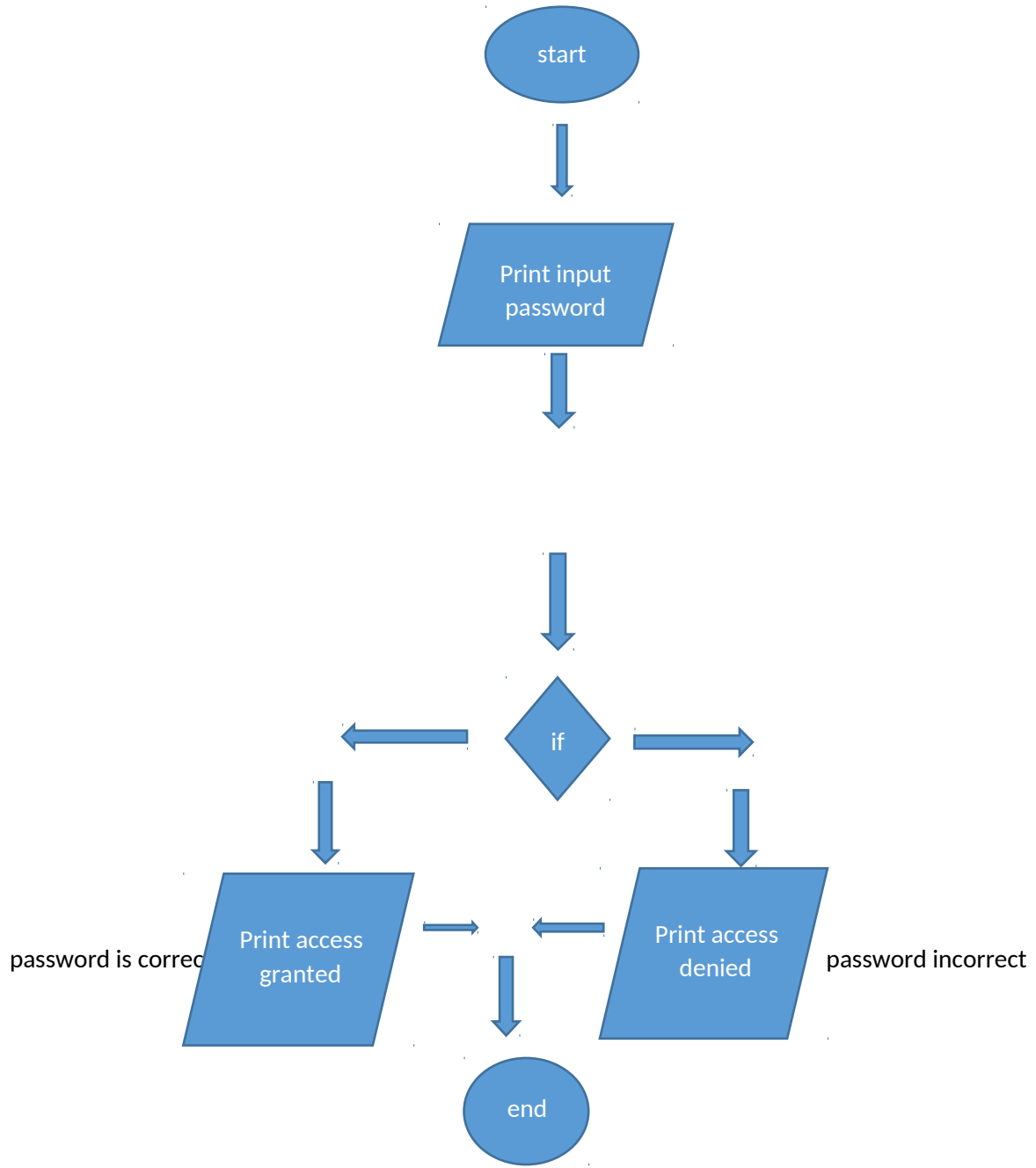
Read soil temperature

Print temperature value

end

FLOW CHART FOR DETERMINING MOISTURE CONTENT

start

Get soil sample

Add water to the soil

Add litmus red paper

if

if it turns blue

if it remain same

Print alkaline

Print acidic

end

FLOW CHART FOR SYSTEM WATER

start

Read time A,B

At time A water system activated

At time B water system deactivated if

water above a

water below a

Indicator green

Indicator turns red

Alarm deact

Alarm is activated

end

start

Print input
password

if

Print access
granted

Print access
denied

password is correct

password incorrect

end

A BOTTOM UP DESIGN

scoop   thermometer   led display   light indicator

algorithm

software   hard ware

Automatic system