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DEPT: ELECTRICAL ENGINEERING

MAT NO: 18/ENG04/044

This software is built to interact with a machine that would help reduce irrigation by determining these factors:

1. The temperature of the soil.
2. The moisture content of the soil to know the concentration of a soil.
3. The time interval for the water system to activate the irrigation system.
4. The addition of an alarm trigger if there is lack of sufficient water in the tank.

CONCEPTUALIZATION:

The concept of this software is to tackle unproductivity in the farm in the dry season due to lack of water by determining the temperature of the soil, the moisture content or soil concentration and also an alarm trigger to show when the plants should be watered with help of a timer to show the level of water readily available.

HARD WARE AND SOFTWARE FEAUTURES

This would contain some feature both hard ware and software

1. Thermometer: this is used to measure the temperature of the soil and its surrounding.
2. A scoop: this is used to collate of soil samples from the earth.
3. Alarm: this would be used to alert the personnel on the measure of water in the tank.
4. Light indicator: this would display to show whether the tank is full or about to be empty.
5. Led display: this would be used to display the various outputs.
6. Level gauge: this would show the amount of water of the tank in litres.

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

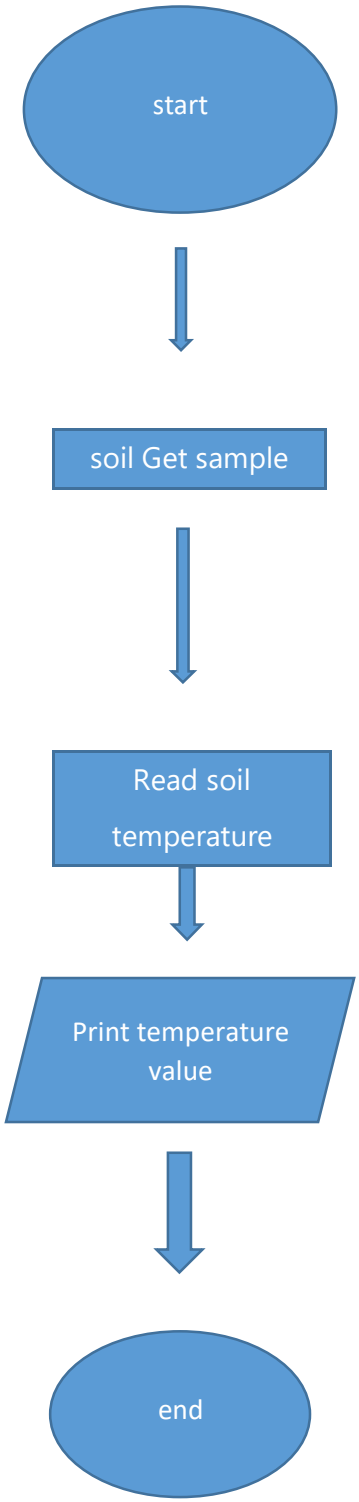
PRINT ACCESS DENIED

ELSE

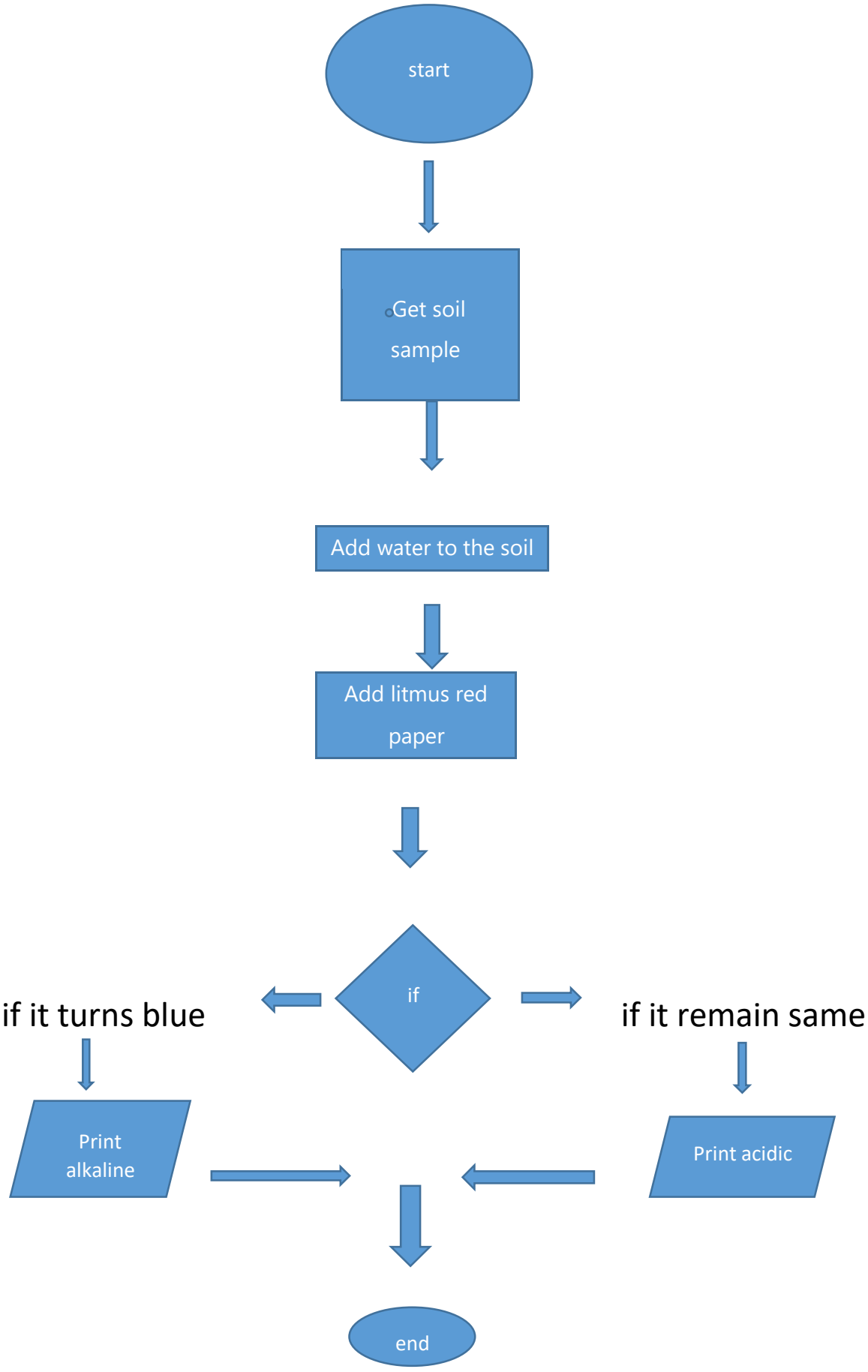
PRINT ACCESS GRANTED

END

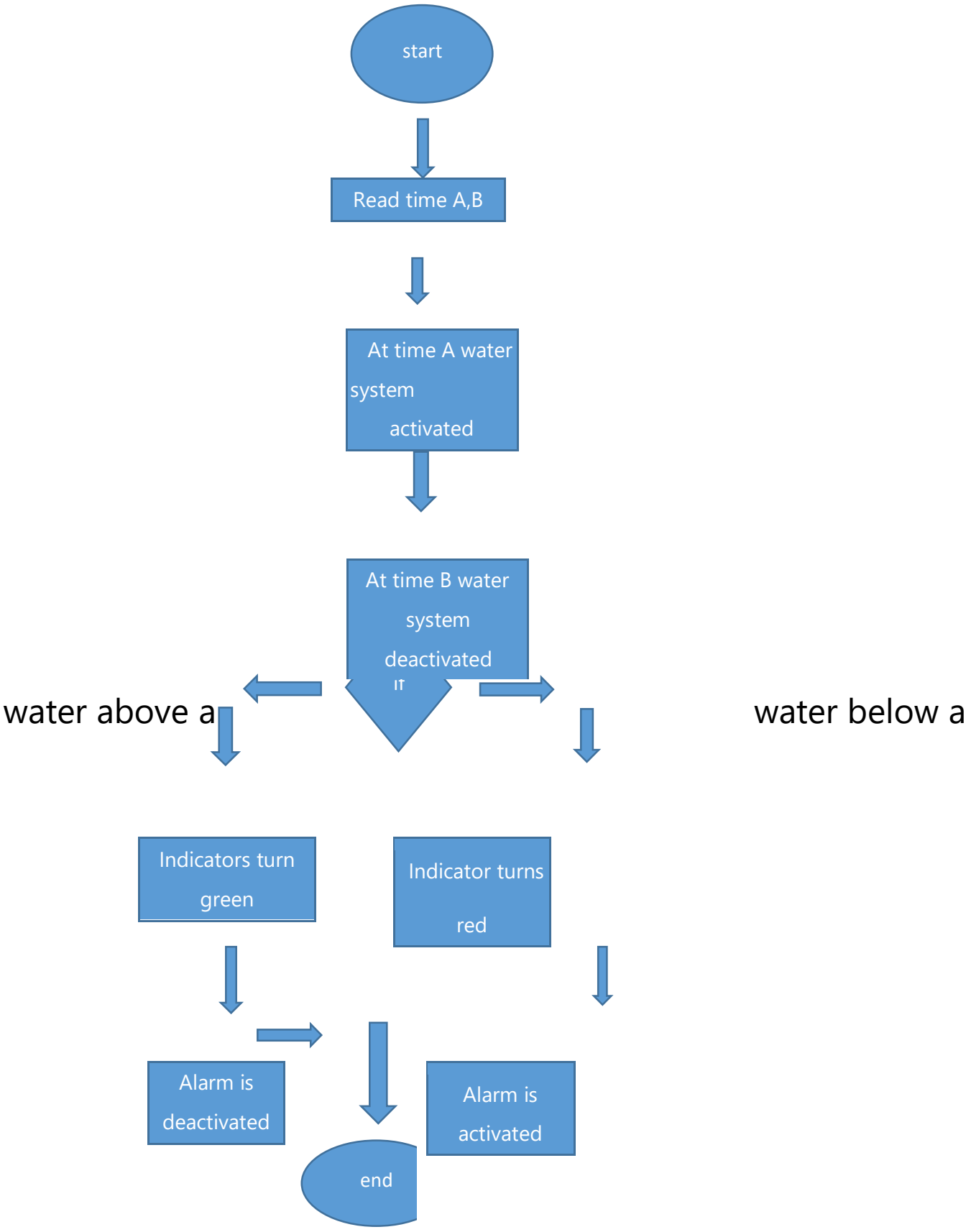
FLOW CHART FOR DETERMINING SOIL TEMPERATURE

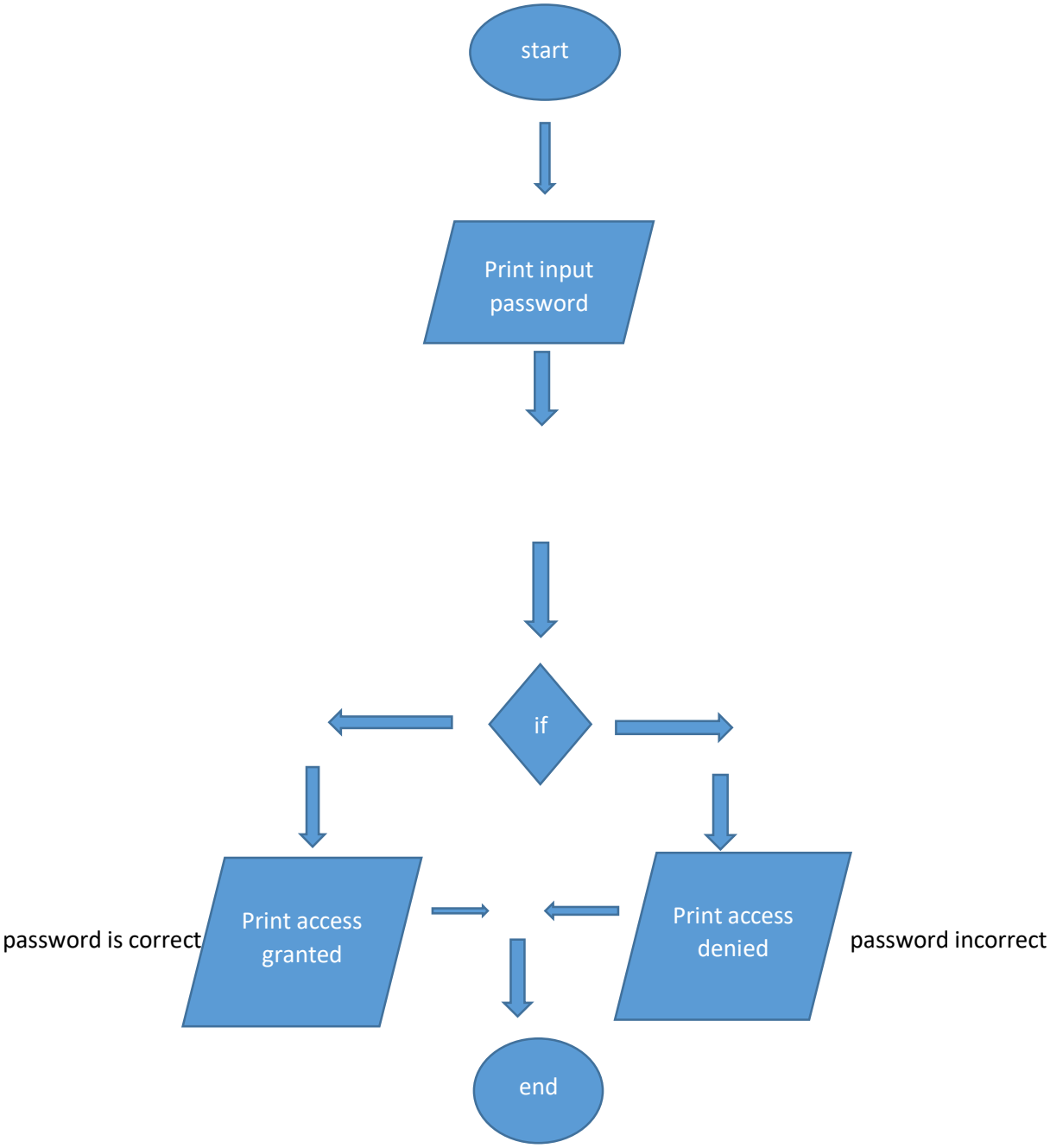


FLOW CHART FOR DETERMINING MOISTURE CONTENT

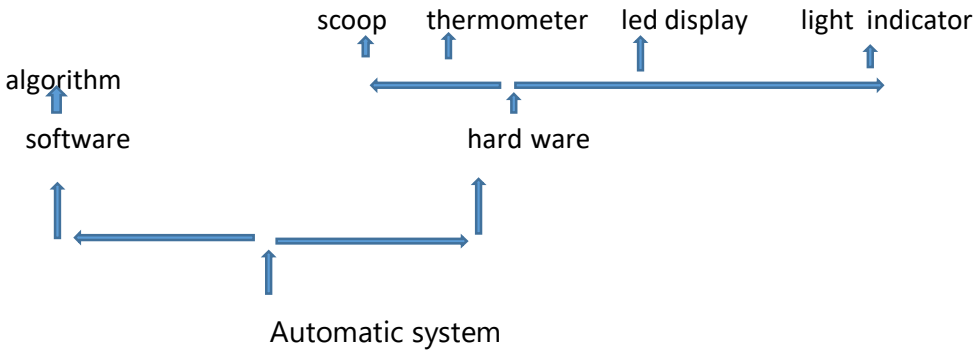


FLOW CHART FOR WATER SYSTEM





A BOTTOM UP DESIGN


scoop
thermometer
led display
light indicator
algorithm
software
hard ware
Automatic system