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Department: mechatronics engineering

Course : Structured programming

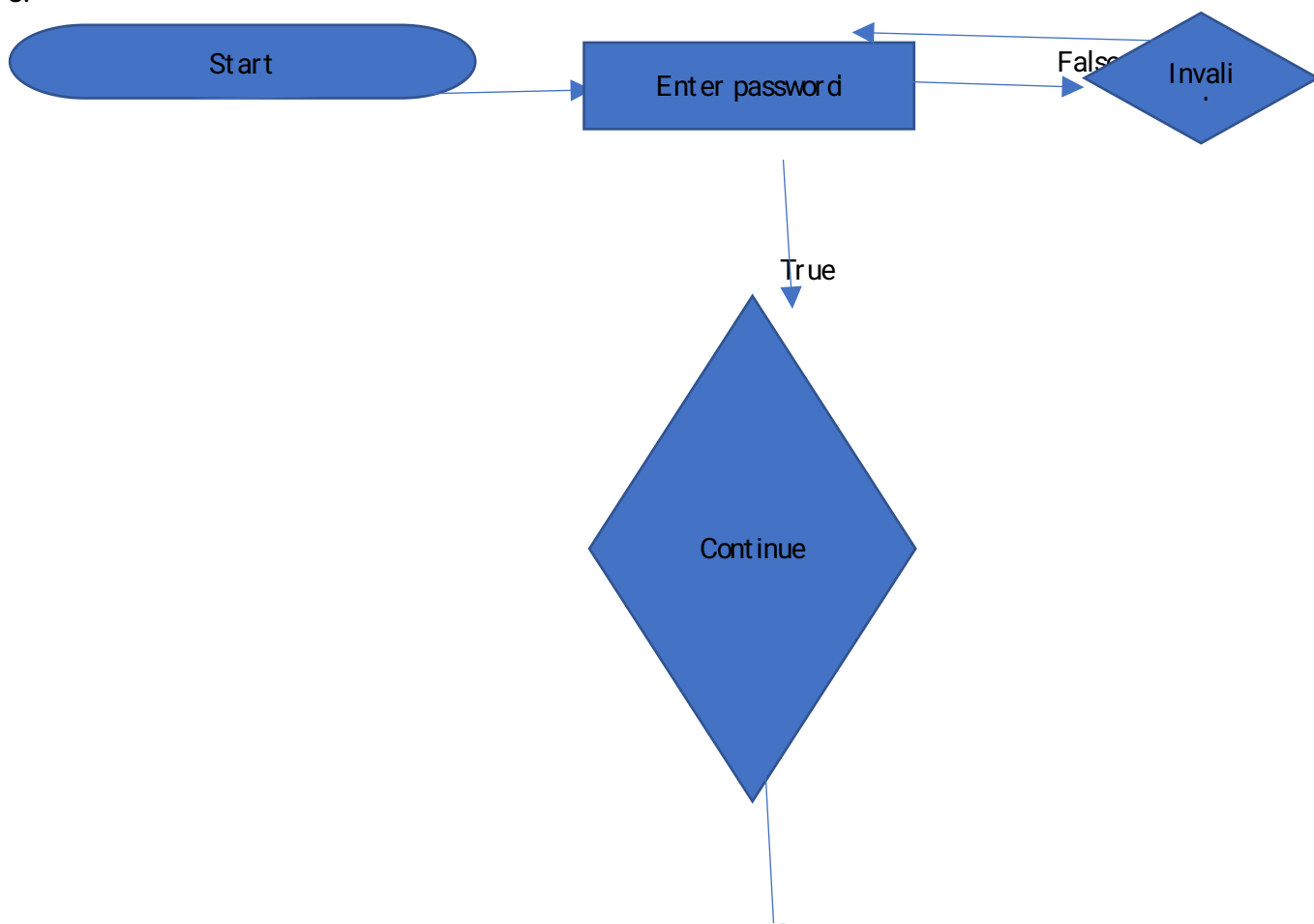
Course code : ENG 224

Matriculation number: 19/ENG05/067

- A. By making use of the software development life cycle which constitutes a list of processes in developing a software in this case for an irrigation system for ABUAD farm.
- a. The first step would be planning, in order to plan we first have to know the issues at hand, which could include water logging of the farm, congestion, wastage of water etc so the basis of this software would be to find solutions to these problems being faced.
 - b. The second stage would be stating out the requirements on which the program would run
 1. It must have an earth thermometer to constantly check the temperature of the soil
 2. It must have a tensiometer to determine its moisture content
 3. The program must be designed with either a clock or a chronoscope to measure time intervals for the water system
 4. It must also be designed with an alarm to indicate when there's shortage of water for irrigation. Hey
 5. And lastly it must have a security system to prevent public or easy access
 - c. The next thing would be to design the software using any irrigation design software, preferably the IRRICAD, since it is the globally and most acceptable irrigation software design platform.
 - d. The next step would be to run the program to see if it works
 - e. And then lastly the deployment and maintenance of the program.

- B
1. A soil thermometer to check the temperature of the soil at different time intervals
 2. A tensiometer is used to determine the amount of moisture in the farm to determine if it requires irrigation
 3. A clock on which the water system runs
 4. An alarm system to indicate when the water is too low for irrigation

.C.



Read soil temperature



Determine moisture content of the soil

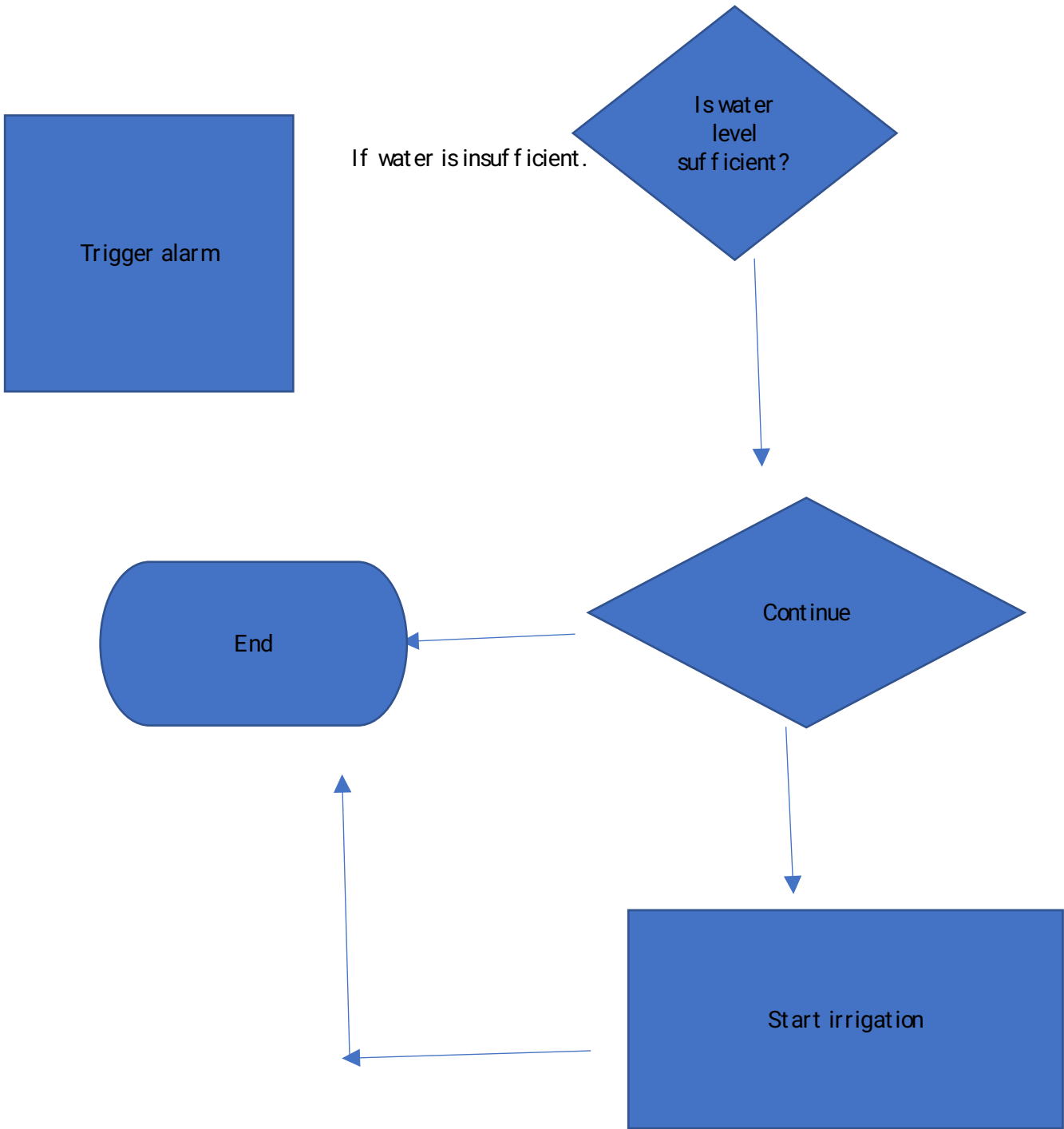


Configure the time interval for the water system



Start irrigation process





ALGORITHM

STEP 1 : START

STEP 2 : INPUT PASSWORD

IF PASSWORD IS CORRECT

CONTINUE

ELSE

END

STEP 3 : INPUT THE OPERATIONS

A Read soil temperature

B Determine moisture content of the soil

C configure the time interval for the system to operate

Check for water level

If water level is insufficient trigger the alarm

ELSE

Start irrigation

Step 4 End

