Home Assignment - 1 CTSD

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1) Design an algorithm and flowchart to withdraw cash at atm.

Ans: Algorithm:

Step 1 : Start

Step 2 : put the Card in the ATM machine

Step 3 : Select the language

Step 4 : Enter your 4-digit pin

Step 5 : Choose your account

Step 6 : Select the amount you want to withdraw

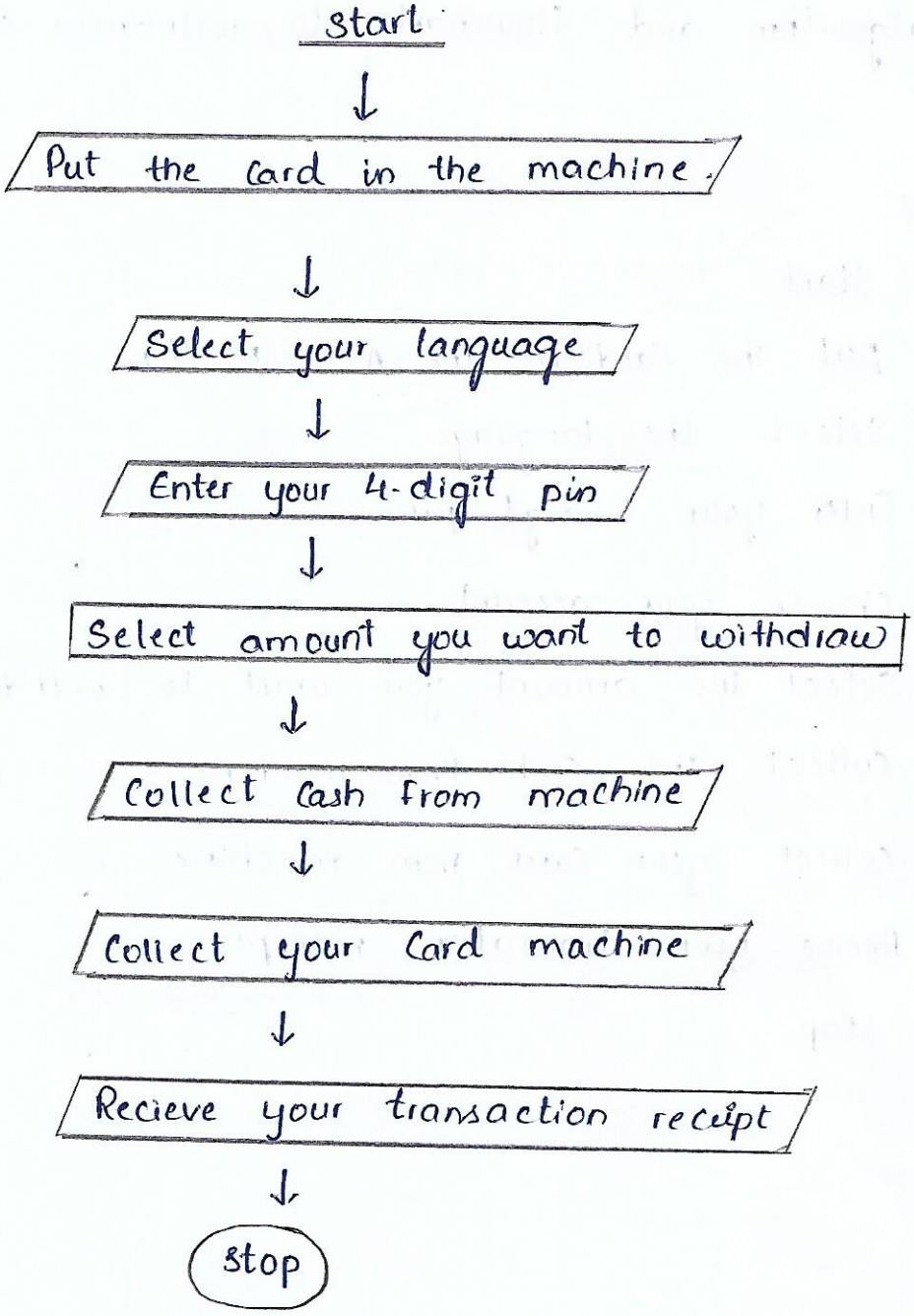
Step 7 : Collect the cash from machine

Step 8 : Collect your Card from machine.

Step 9 : Recive your transation receipt

Step 10 : Stop.

FLOW CHART


start
Put the card in the machine.
Select your language
Enter your 4-digit pin
Select amount you want to withdraw
Collect Cash From machine
Collect your Card machine
Recieve your transaction recipt
stop

2) Design an algorithm to find circumference of circle in modular way. use raptor to execute flow chart.

Ans

Algorithm : Main

Step 1 : Start

Step 2 : Enter r value by printf statement

Step 3 : Scanning r value by scanf

Step 4 : calling module " calcircumference".

Step 5 : print circumference.

Step 6 : stop.

Algorithm : calcircumference

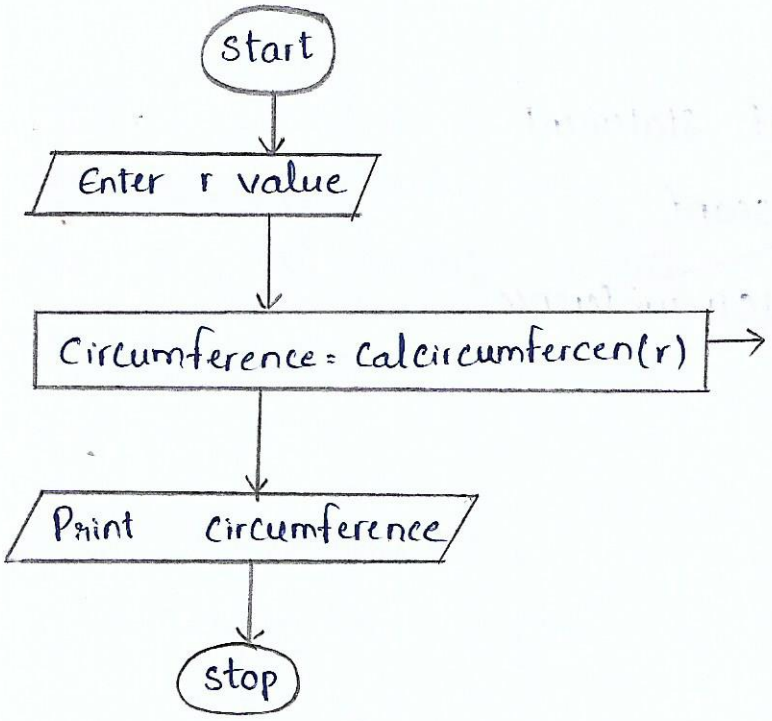
Step 1 : declare r value, declare circumference.

Step 2 : Circumference = 2 * 3.14 * r.

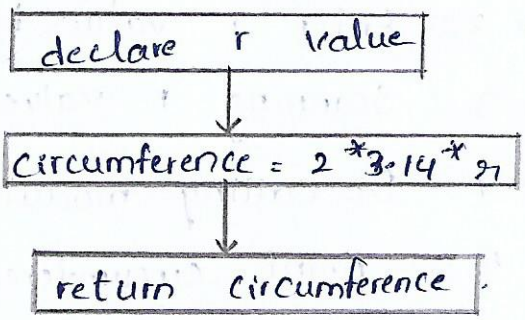
Step 3 : return circumference value to main module.

Flowchart by Raptor tool

Flowchart : main




Flowchart : calcircumference



3) Design an algorithm in modular way to convert inch into cm. use raptor tool to use flowchart.

Ans :

Algorithm: main

Step 1 : start

Step 2 : Enter value in inch

Step 3 : Call module calCm(inch)

Step 4 : print centimeter

Step 5 : Stop

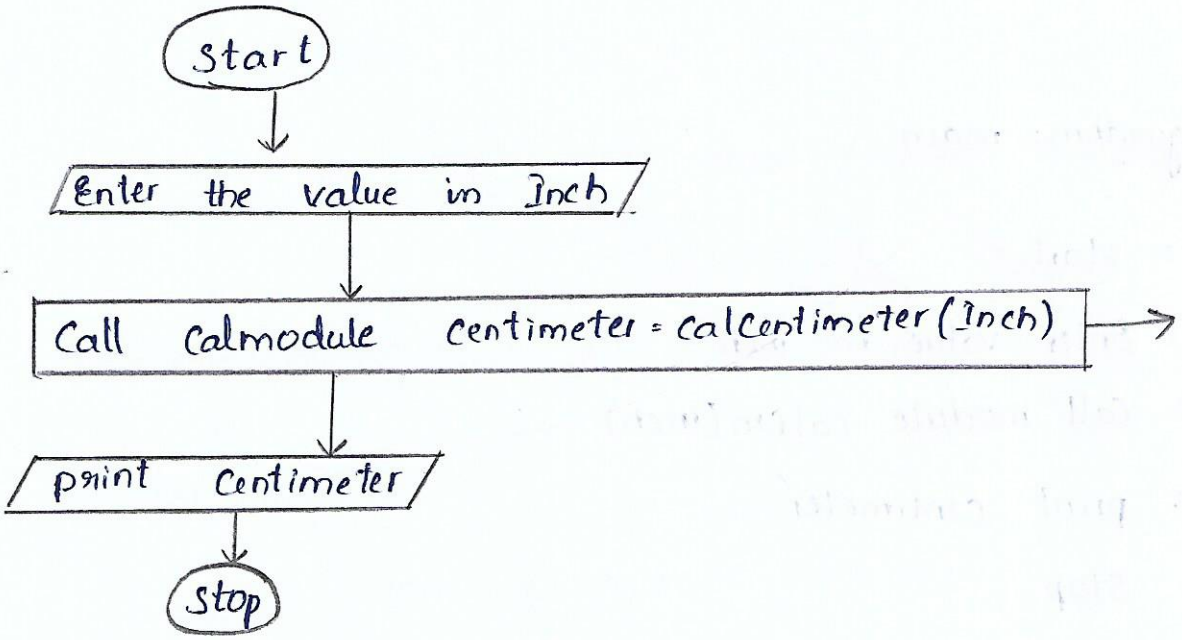
Algorithm : calCm

Step 1 : declare ~~inches~~ cm

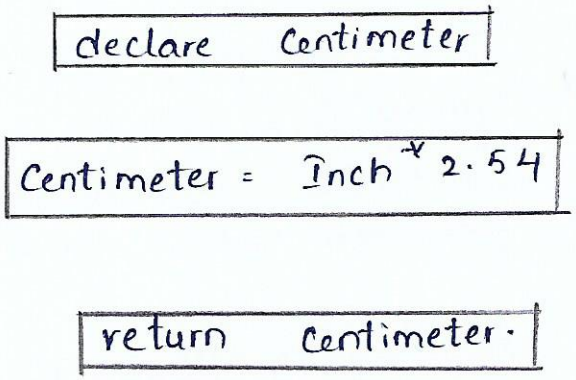
Step 2 : ~~inches~~ = cm = inch * 2.54

Step 3 : return cm.

Flowchart : main




flowchart : Calcentimeter.



4) write an algorithm in a modular way that takes input - price of item (P), years of service (Y) and Expected Savage value (S), yearly disciption (D).

$D = (P - S)\,y$ . use raptor to draw flowchart.

Ans

Algorithm : main

Step 1 : start

Step 2 : Read the values of P, S, N

step 3 : call module calyearlydiscription

Step 4 : print yearly disciption

step 5 : stop

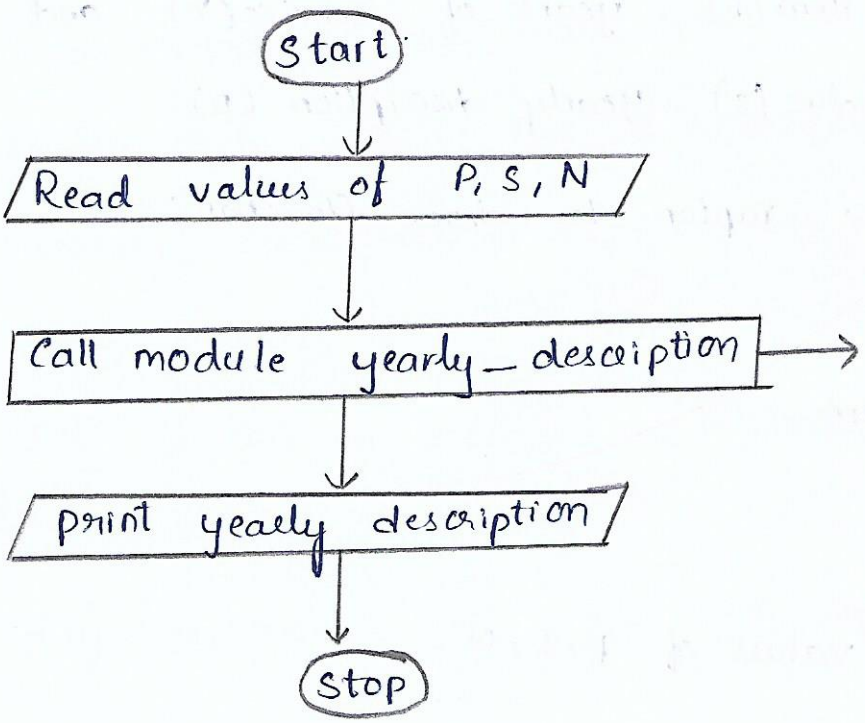
Algorithm : Calyearlydisciption

Step 1 : Declare yearlydesciption

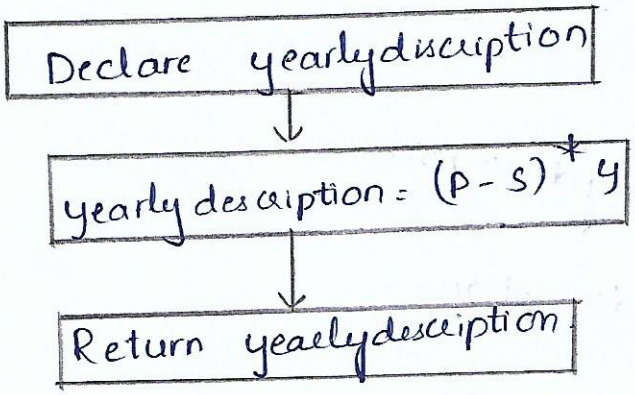
Step 2 : yearlydesciption = $(P - S)^{*} y$

Step 3 : return yearlydesciption.

flowchart : main




flowchart : calyearlydescription



5) Design an algorithm in modular way and draw flow chart using raptor tool for the most economical quantity to stocked for each product that a manufactured company has it's inventory. Calculate Economic order quality as

$EOQ = 2rs/I$ where r is yearly requirement, S is set up cost per order. I is Inventory carring Cost per unit:

Ans Algorithm: Main

Step 1 : Start

Step 2 : Read R, S, I values

Step 3 : Call Calmodule "CalEOQ"

Step 4 : print CalEOQ

Step 5 : Stop.

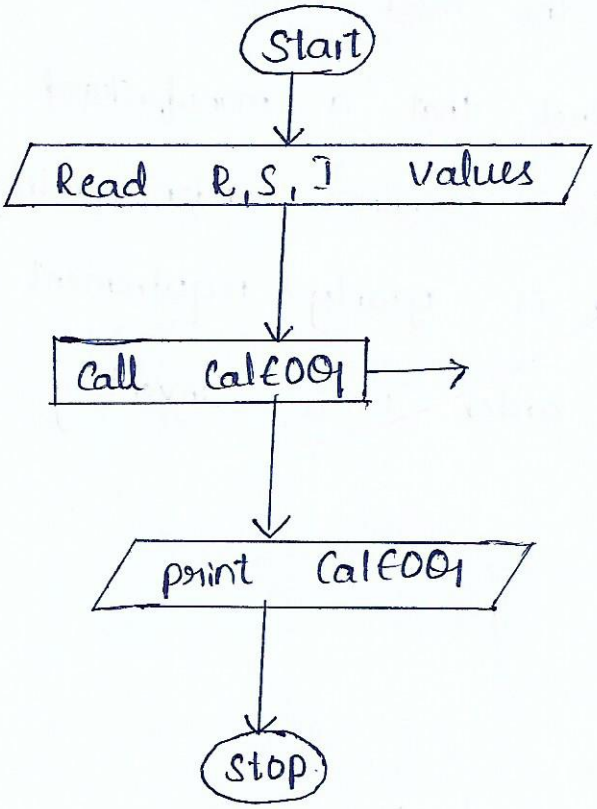
Algorithm: CalEOQ

Step 1 : Read R, S, I values, Declare EOQ

Step 2 : $EOQ = R * S / I$

Step 3 : Return EOQ.

Flowchart : MAIN




flowchart : CalEOQ