SVKM's NMIMS

Mukesh Patel School of Technology Management and Engineering, Mumbai

Programming for Problem Solving (Exp 1-2)

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Program: B. Tech Data Science (1st)	**Batch: J1**
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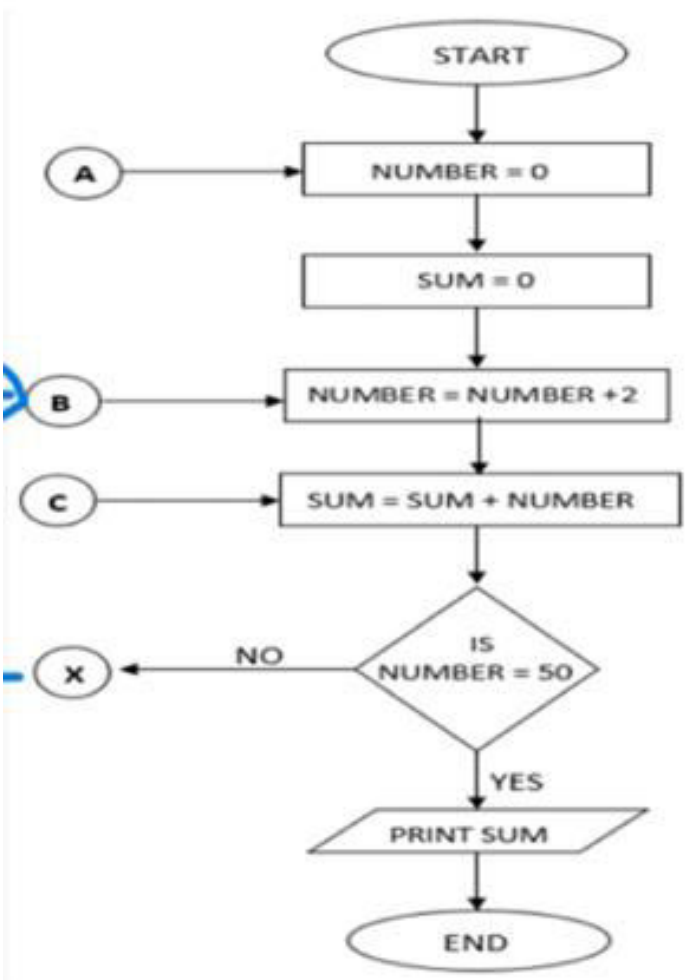
Task 1:

Flowchart:



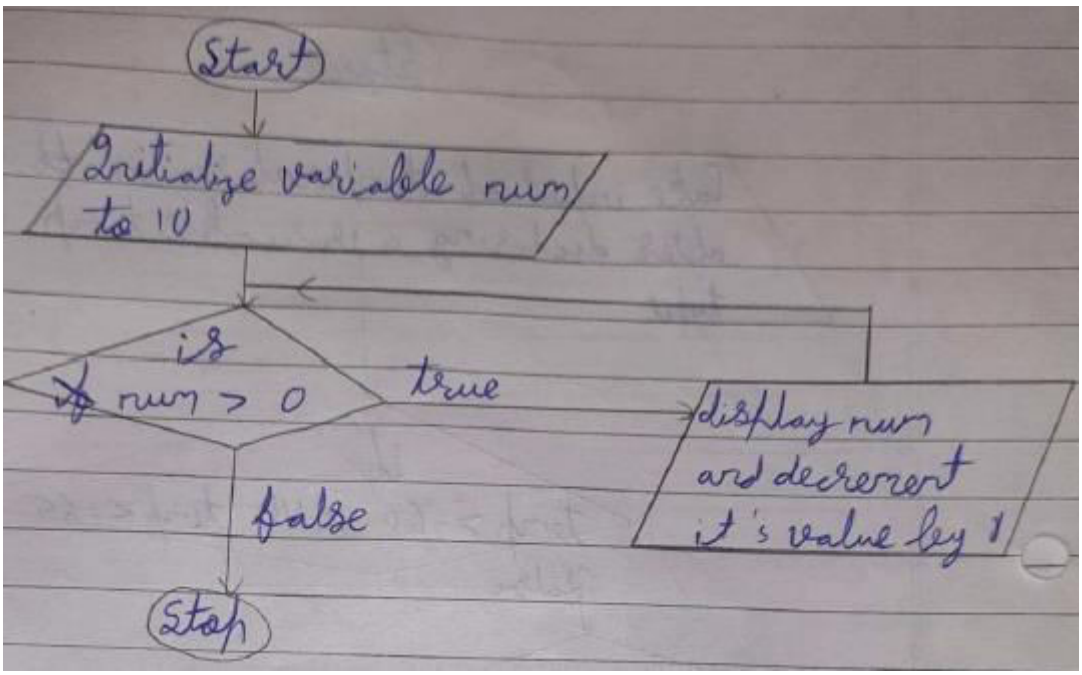
Task 2:

1.

Algorithm:

Step1	Start
Step2	Initialize variable num to 10
Step3	Is num>0? If yes then display num and decrement it's value by 1, if not then end the loop
Step4	Stop

Flowchart:

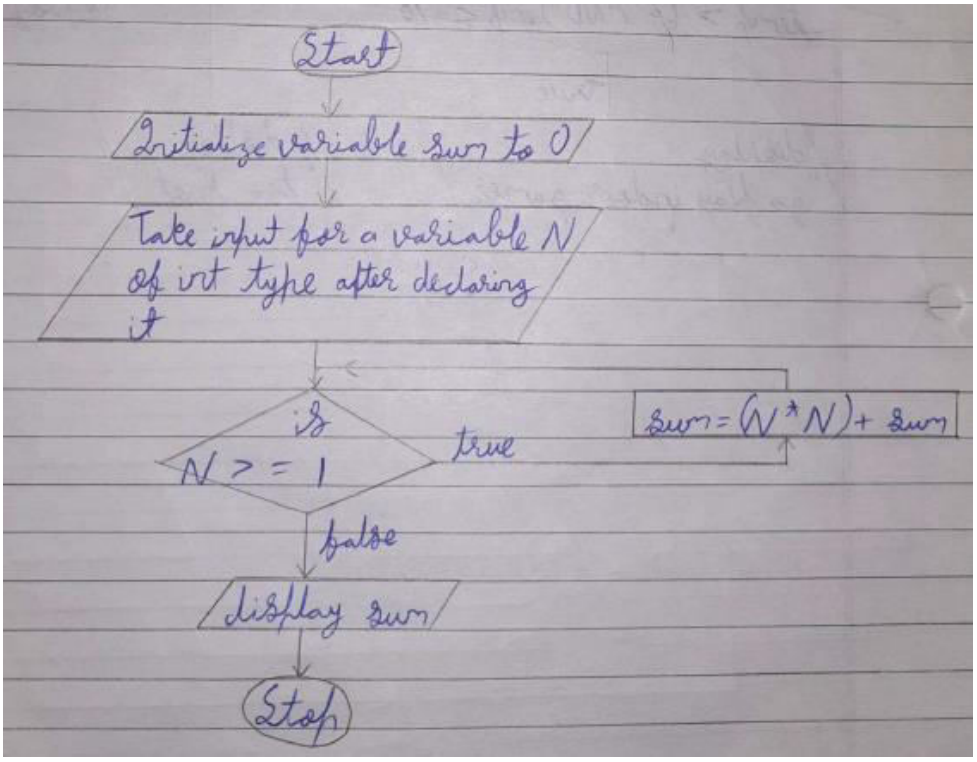


2.

Algorithm:

Step1	Start
Step2	Initialize variable sum to 0
Step3	Take input for a variable N of int type after declaring it
Step5	Is N>=1? If yes then sum=sum+(N*N), if not then end the loop
Step6	Display sum
Step7	Stop

Flowchart:

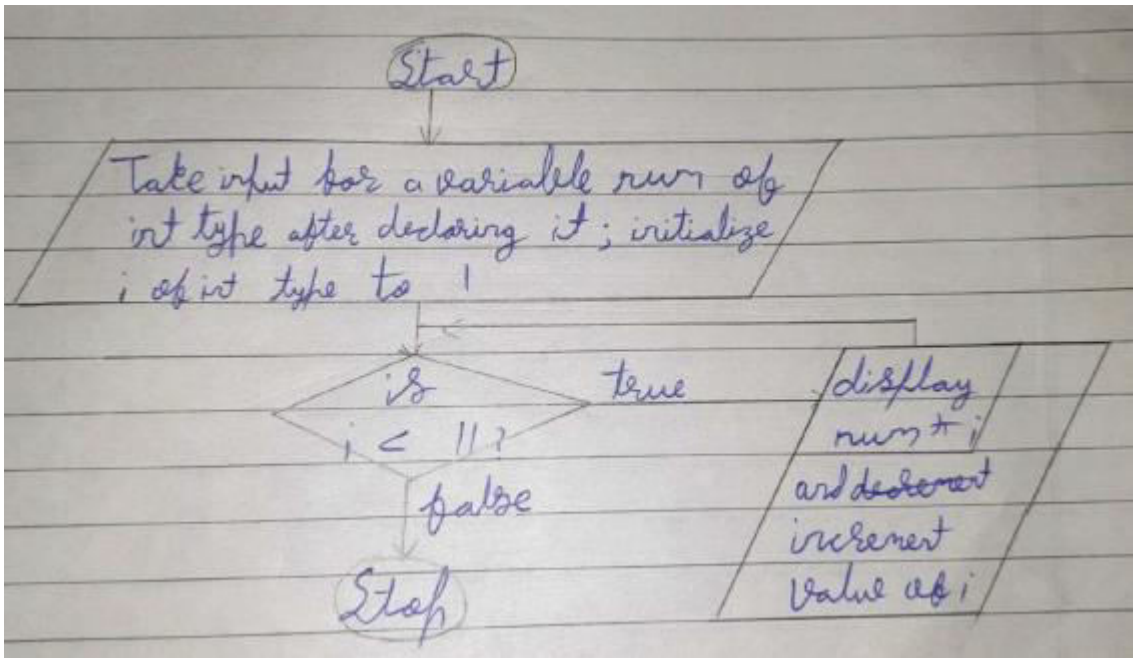


3.

Algorithm:

Step1	Start
Step2	Take input for a variable num of int type after declaring it; initialize i of int type to 1
Step3	Is i<11
Step4	Stop

Flowchart:

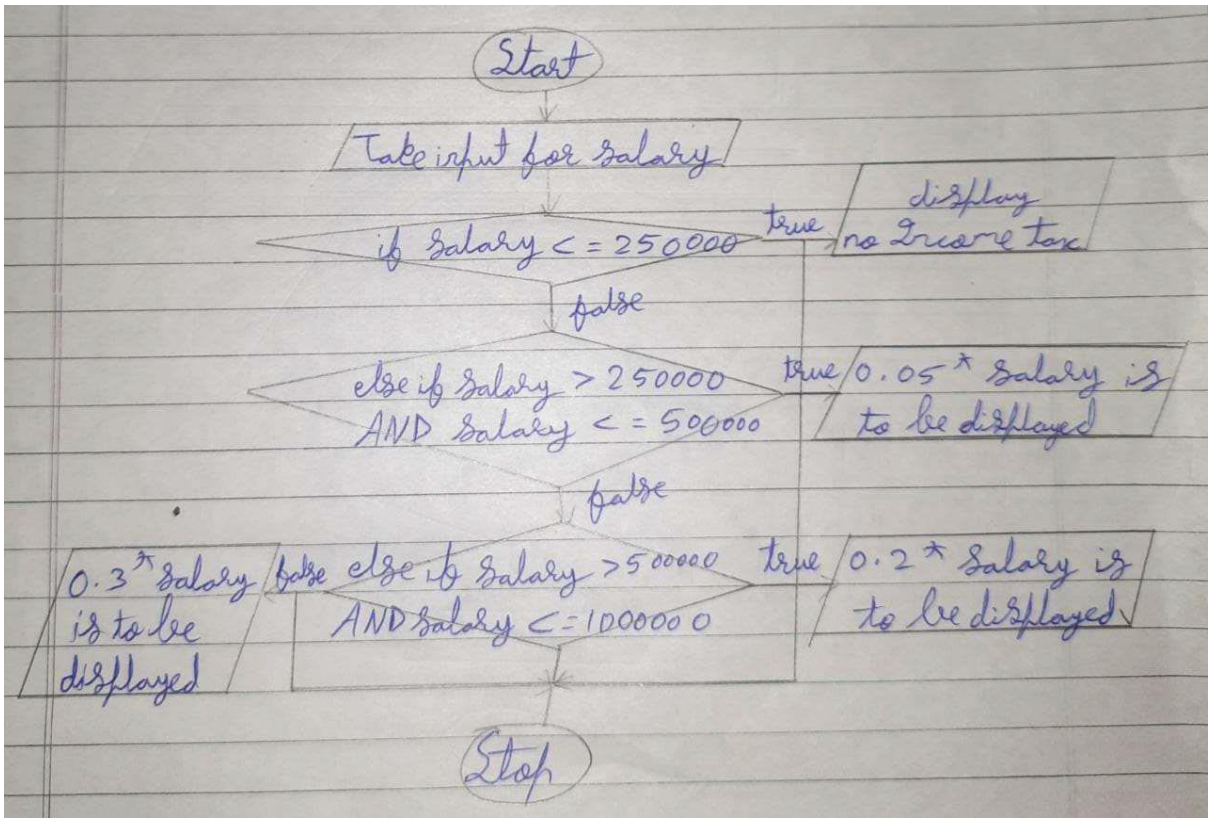


4.

Algorithm:

Step1	Start
Step2	Take input for salary
Step3	If salary<=250000, display "no income tax"
Step4	Else if salary>250000 AND salary<=500000, display 0.05*salary
Step5	Else if salary>500000 AND salary<=1000000, display 0.2*salary else display 0.3*salary
Step6	Stop

Flowchart:



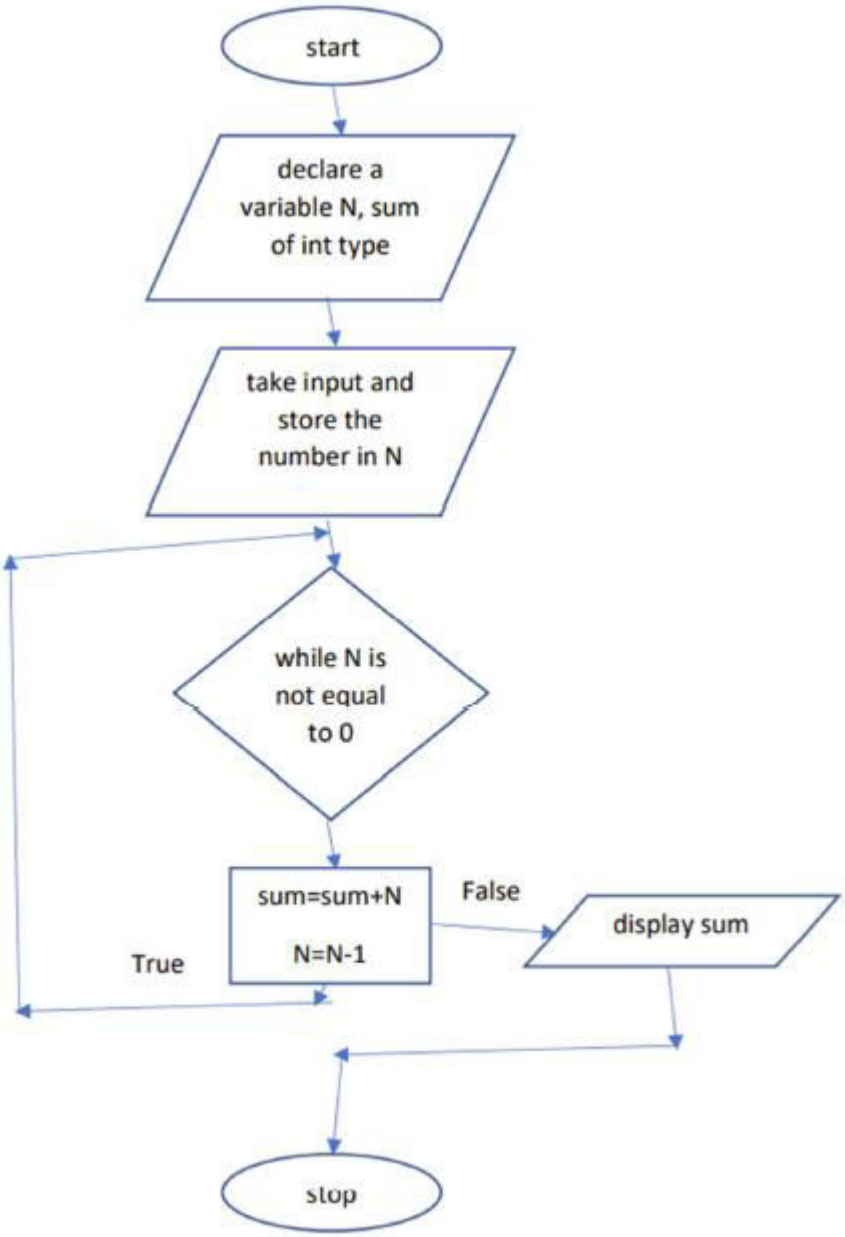
Homework Questions:

1.

Algorithm:

Step1	start
Step2	declare a variable N, sum of int type
Step3	take input and store the number in N
Step4	while N is not equal to 0 sum=sum+N N=N-1
Step5	display sum
Step6	stop

Flowchart:

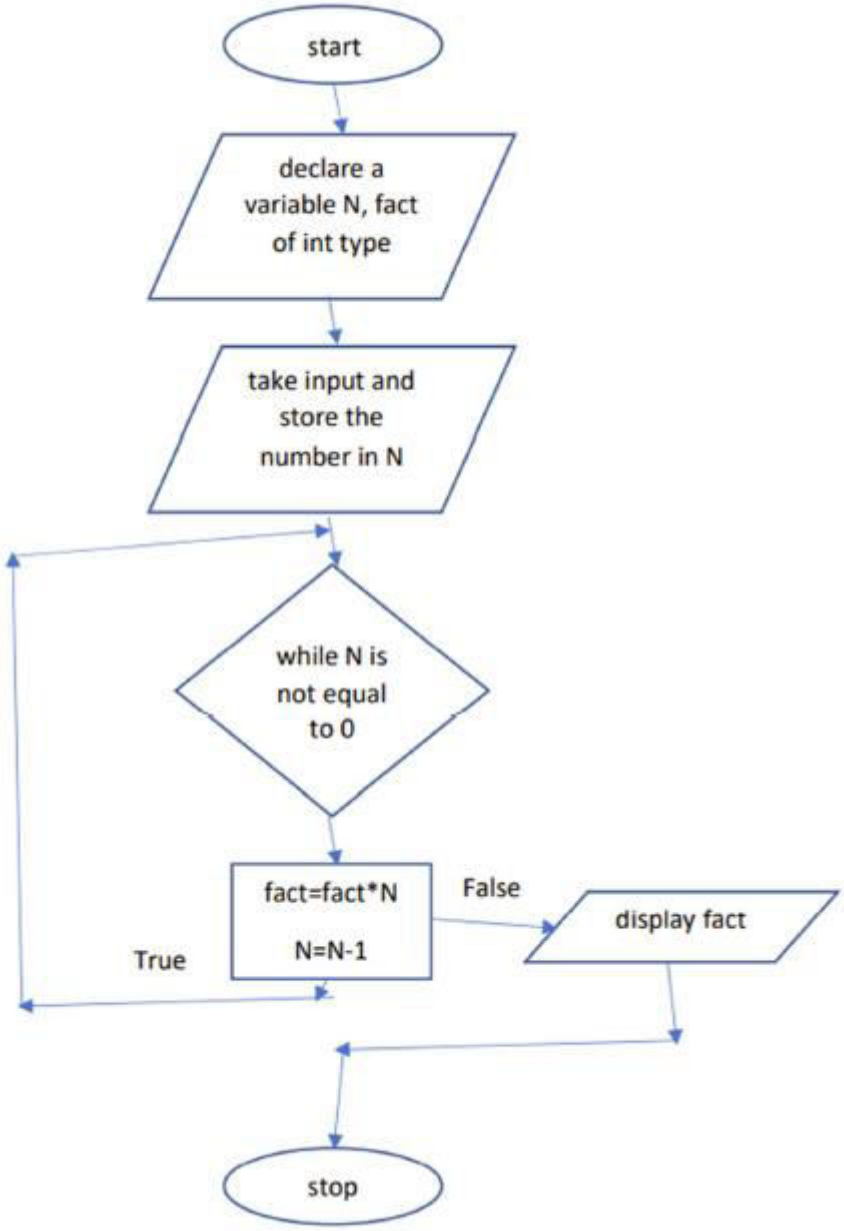

start
declare a variable N, sum of int type
take input and store the number in N
while N is not equal to 0
sum=sum+N
N=N-1
True
False
display sum
stop

2.

Algorithm:

step1	start
step2	declare a variable N, fact of int type
step3	take input and store the number in N
step4	while N is greater 0 fact=fact*N N=N-1
step5	display fact
step6	stop

Flowchart:

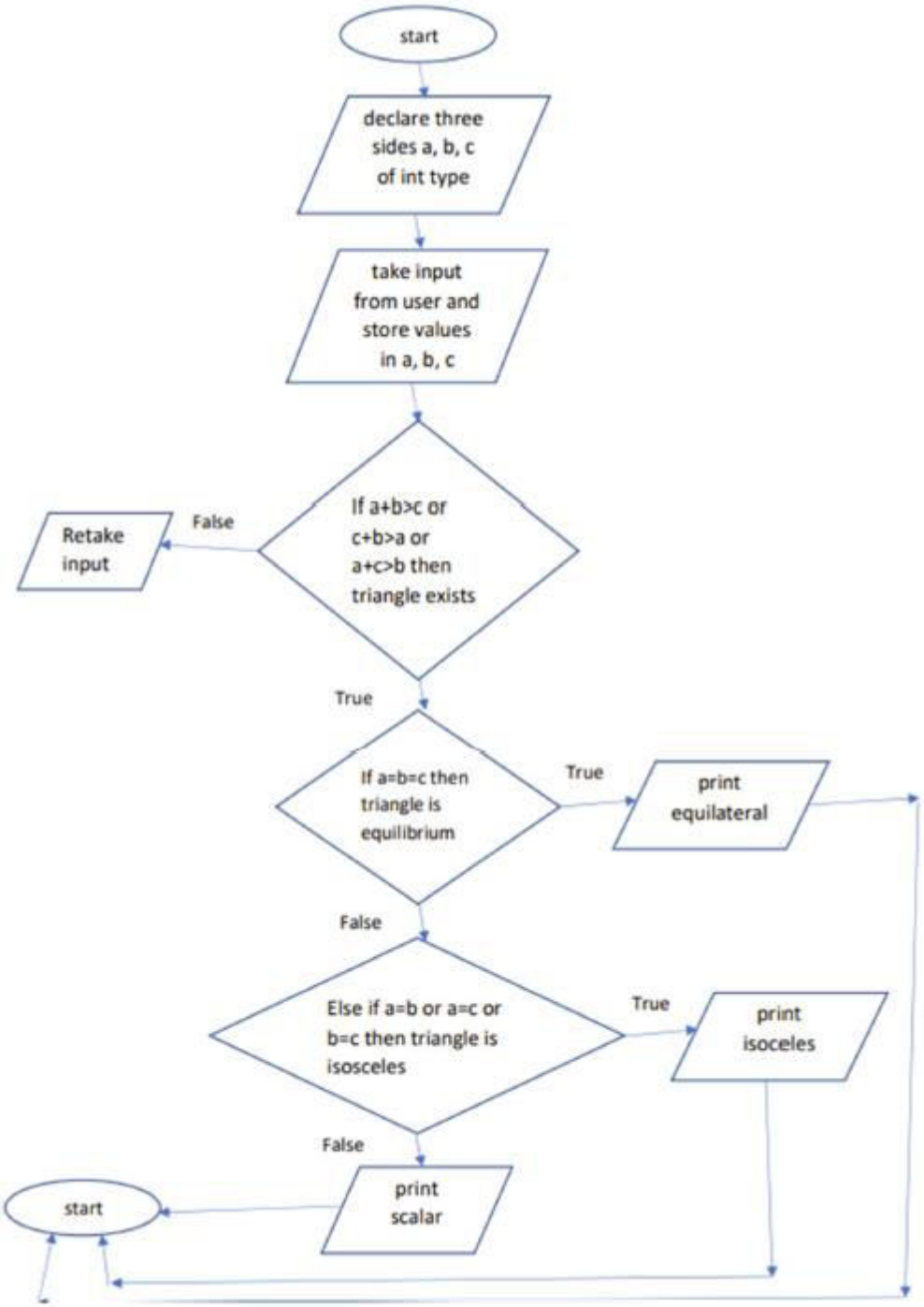

start
declare a variable N, fact of int type
take input and store the number in N
while N is not equal to 0
fact=fact*N
N=N-1
True
False
display fact
stop

3.

Algorithm:

step1	start
step2	declare three sides a, b, c of int type
step3	take input from user and store values in a, b, c
step4	If a+b>c or c+b>a or a+c>b then the triangle exists Else retake input
step5	If a=b=c then triangle is equilibrium Else if a=b or a=c or b=c then triangle is isosceles Else triangle is scalar
step6	Display triangle type
step7	stop

Flowchart:


start
declare three sides a, b, c of int type
take input from user and store values in a, b, c
If a+b>c or c+b>a or a+c>b then triangle exists
False
Retake input
True
If a=b=c then triangle is equilibrium
True
print equilateral
False
Else if a=b or a=c or b=c then triangle is isosceles
True
print isoceles
False
print scalar
start