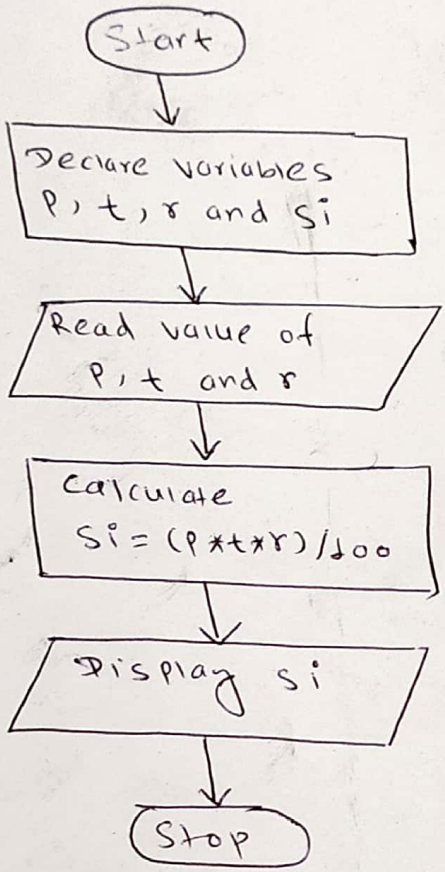
1) write an Algorithm and Draw a flowchart to find the simple Interest (SI)

flowchart



Algorithm

Step1: Start

Step2: Declare variables p, t, r and si

Step3: Read value of p, t and r

Step4: Calculate si = (p*t*r)/100

Step 5: Display si

Step 6: Stop.

② Write an Algorithm and draw a flowchart to check the given number is odd or even.

Input ⟷ Read
Print ⟷ Display
else ⟷ otherwise

Algorithm

Step 1: Start

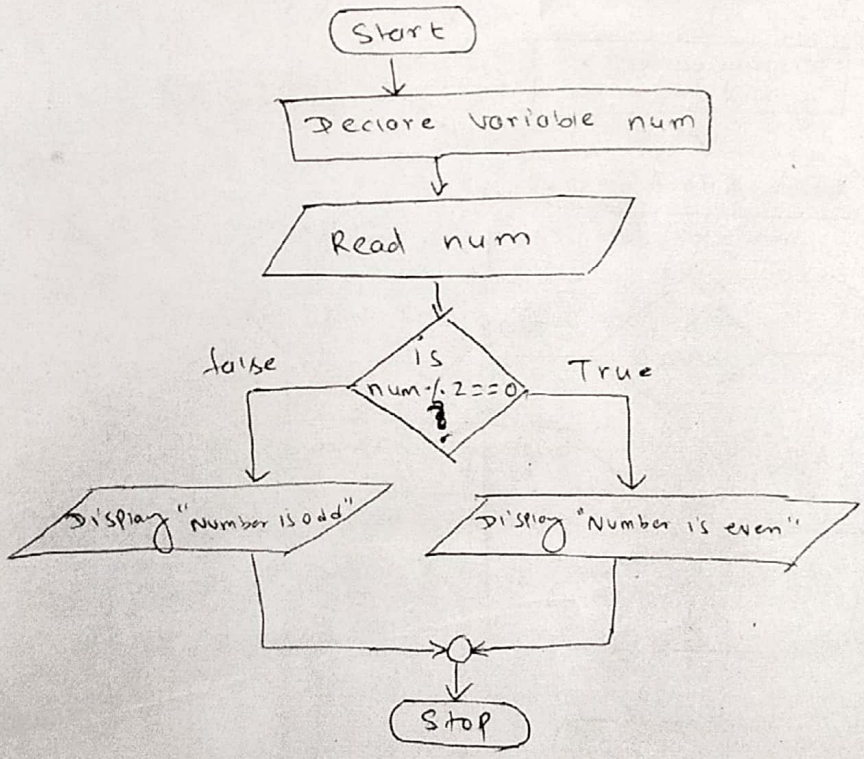
Step 2: Declare variable num

Step 3: Read value of num

Step 4: if (num %2 == 0)
Display "Number is even"
else
Display "Number is odd"

Step 5: Stop

flowchart



② write an Algorithm and Draw a flowchart to find ~~maximum~~ greater among two numbers.

Algorithm

Step 1: Start

Step 2: Declare variables a and b

Step 3: Read value of a and b

Step 4: if (a>b)

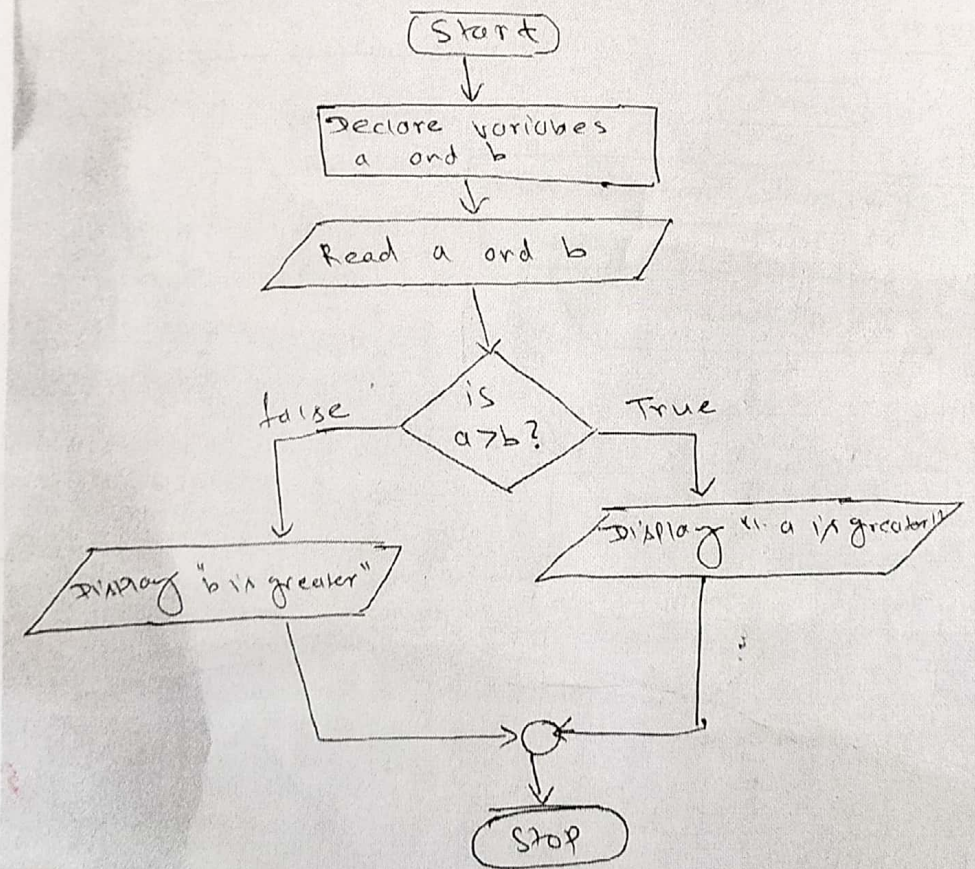
Display "a is greater"

else

Display "b is greater"

Step 5: Stop

flowchart



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Write algorithm and draw flowchart to find largest among three numbers.

[90: 2010 fall]

Algorithm

Step 1: Start

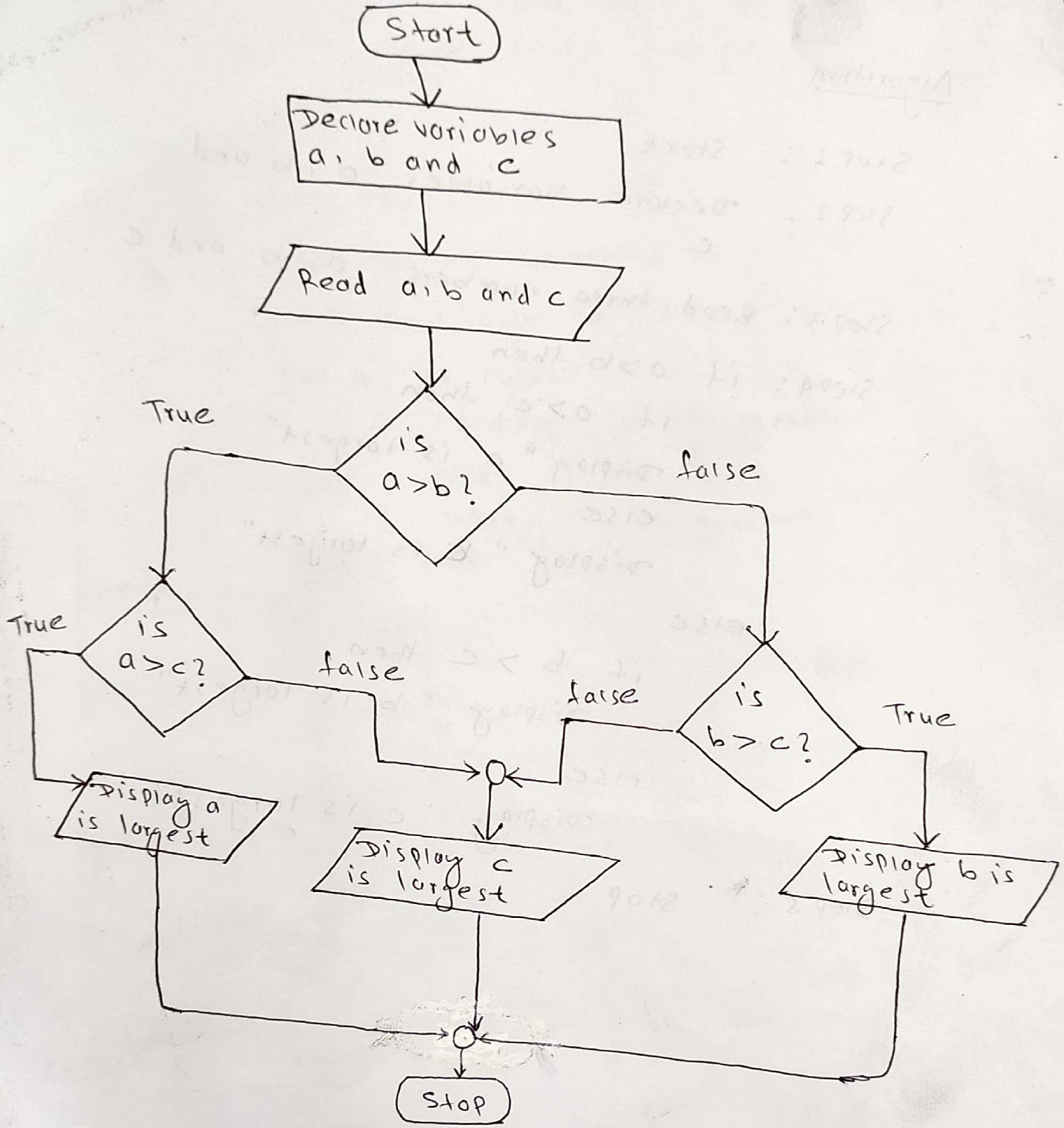
Step 2: Declare variables a, b and c

Step 3: Read three numbers a, b and c

Step 4: if a > b then
    if a > c then
    Display "a is largest"
    else
    Display "b is largest"
else
    if b > c then
    Display "b is largest"
    else
    Display "c is largest"

Step 5: Stop

flowchart



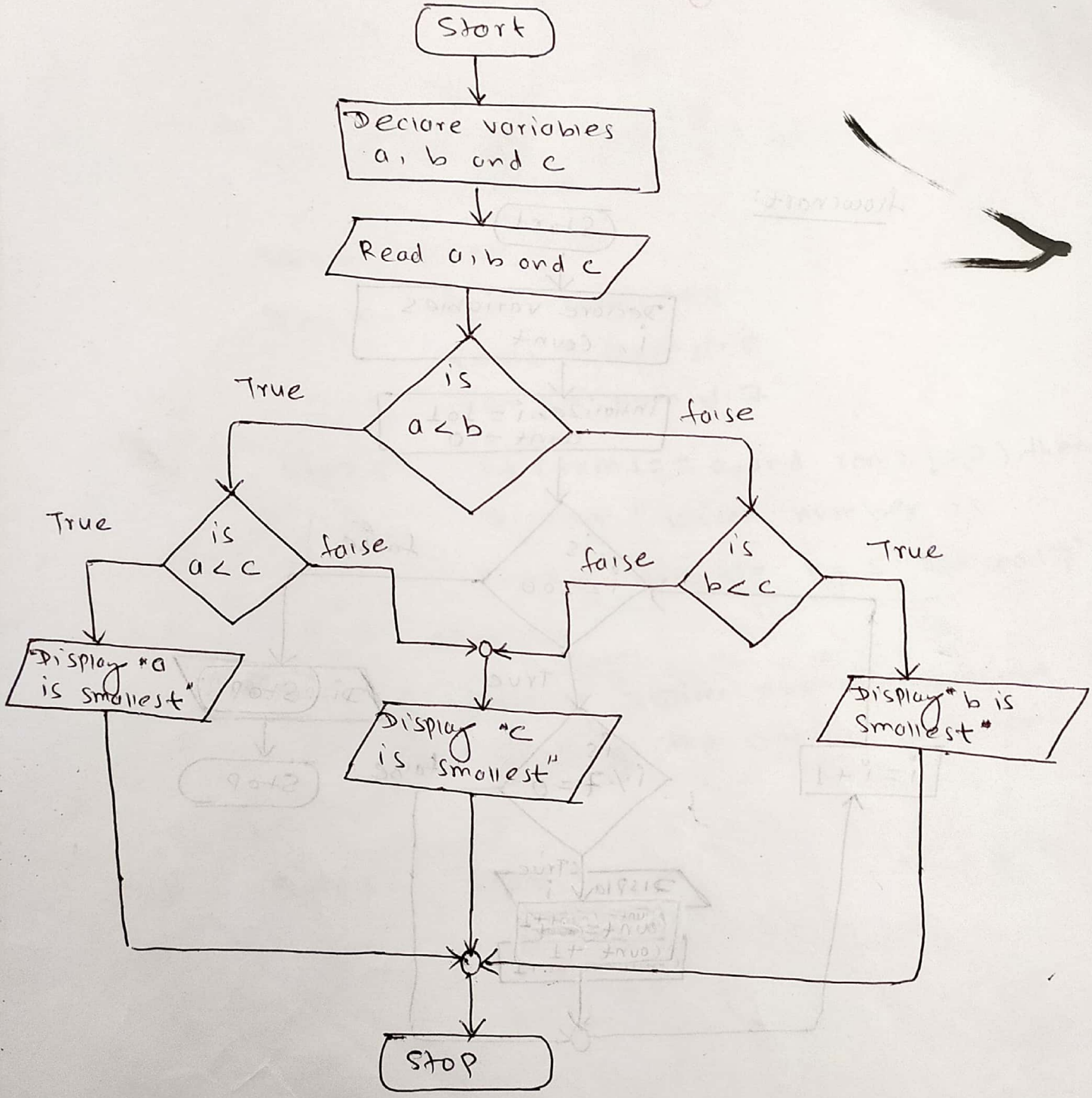
Assignment:

imp Draw a flowchart to read three numbers from user and find the smallest one. [PU: 2012 fall, PU: 2017 fall]

- Draw a flowchart to find the largest number among four number
- Draw a flowchart to display the second largest number among three entered numbers.

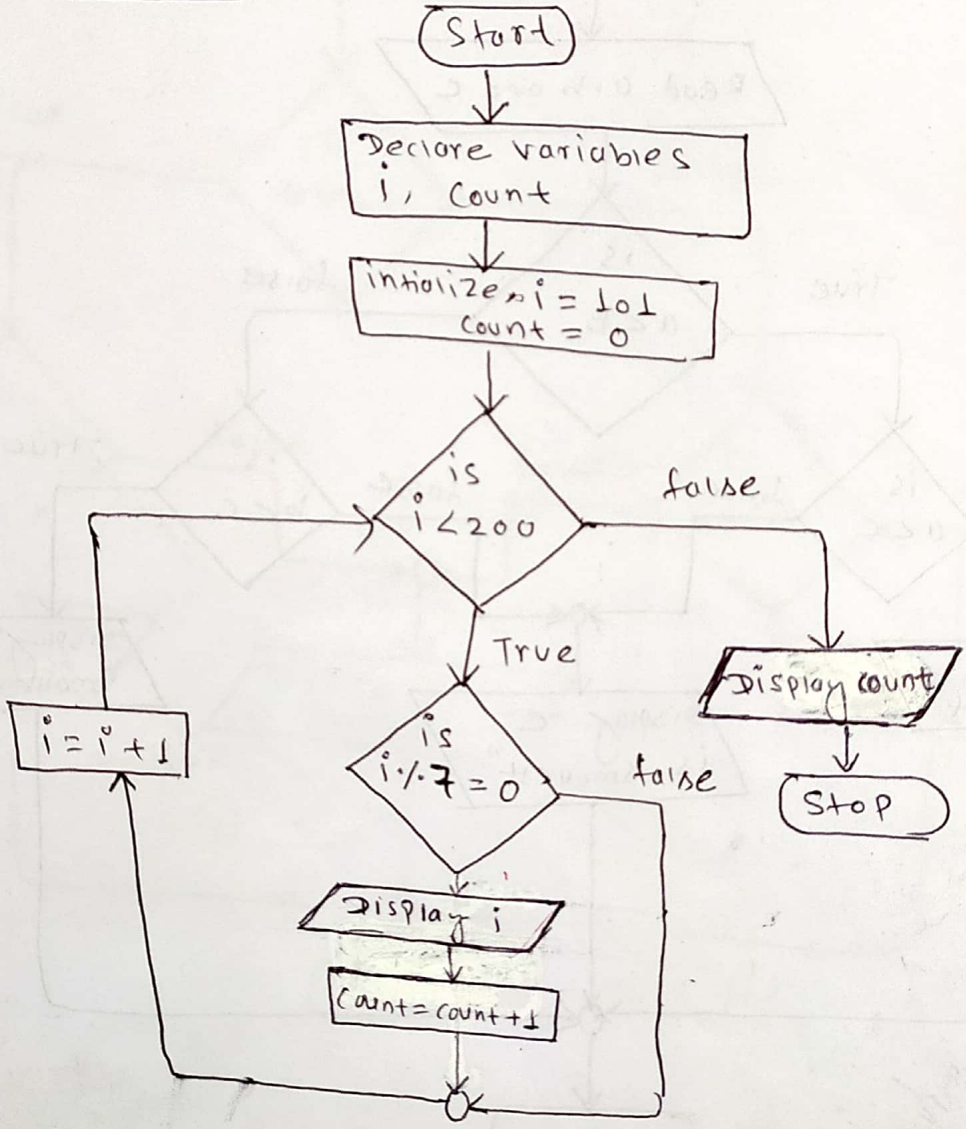
Draw a flowchart to read three numbers from user and find the smallest one.

[PU: 2012 fall, 2017 fall]



(13) Write an Algorithm and draw a flowchart to count and display the numbers greater than 100 and less than 200 that is divisible by 7.

flowchart:



Write an algorithm and draw a flowchart to check whether a number is exactly divisible by 5 but not 7.

Algorithm:

Step 1: Start

Step 2: Declare variables rem1, rem2 and num

Step 3: Read num

Step 4: find remainders

rem1 = num %. 5

rem2 = num %. 7

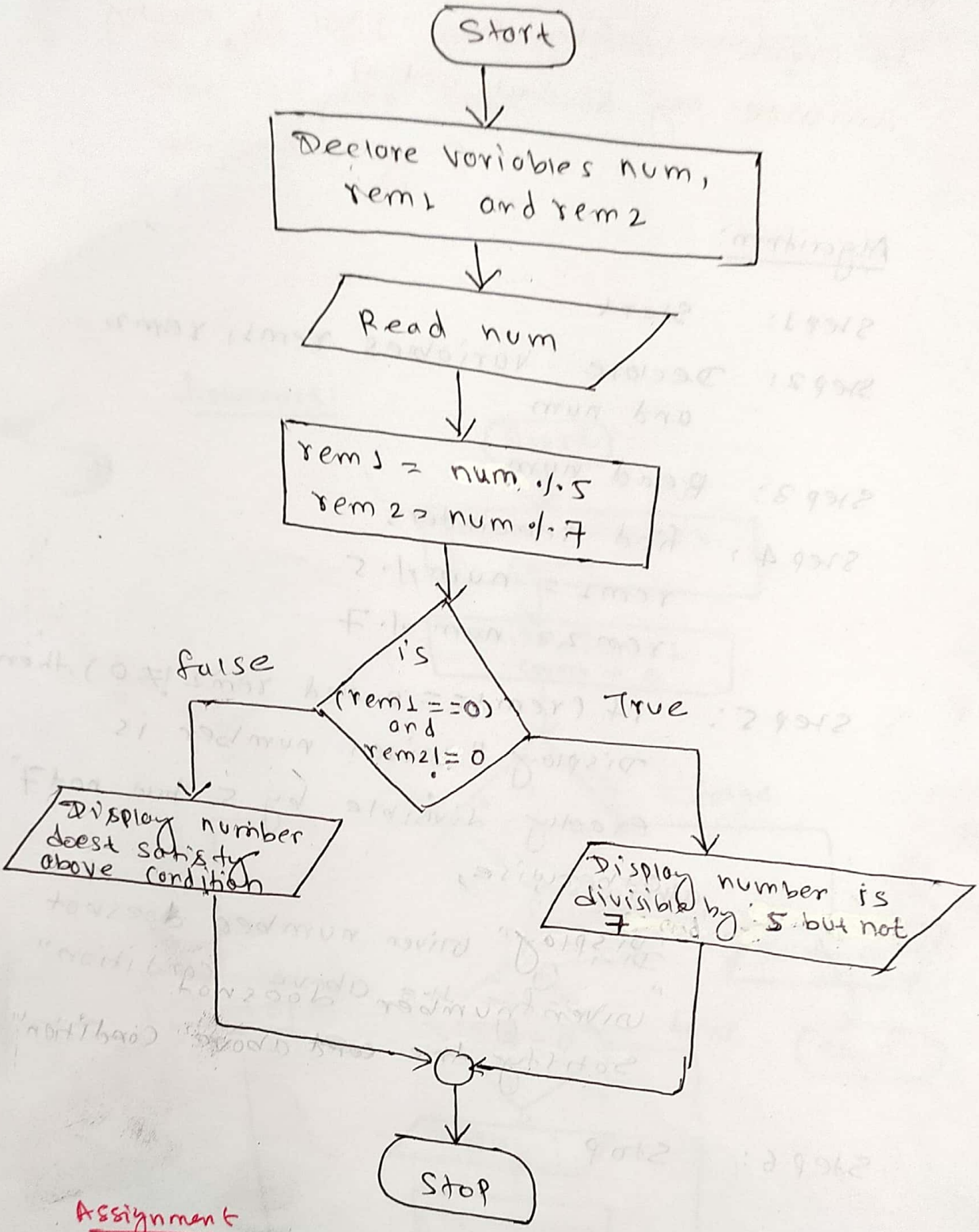
Step 5: if (rem1 == 0 and rem2 != 0), then

Display "Given number is exactly divisible by 5 but not 7"

otherwise,

Display "Given number doesnot satisfy the above condition"

Step 6: Stop



Assignment

write an algorithm and Draw a flowchart to find the number given by user is divisible by 2, 3 and 6 or not. [PU: 2019 Spring]

Hint:

rem1 = num %2

rem2 = num %3

rem3 = num %6

Check if (rem1 == 0 and rem2 == 0 and rem3 == 0)

write an Algorithm and Drow flowchart to find an output of all roots of quadratic equation for non-zero coefficient. In case of errors program ~~should~~ should report suitable error message. [CPU: 2014 spring]

Algorithm

Step 1: Start

Step 2: Declare variables a, b, c, d, root1 and root2

Step 3: Read values of a, b and c

Step 4: calculate discriminant (d)

$$d = b^2 - 4ac$$

Step 5: if $d < 0$ then

Display "Roots are imaginary"

otherwise, calculate

~~Calculate~~,

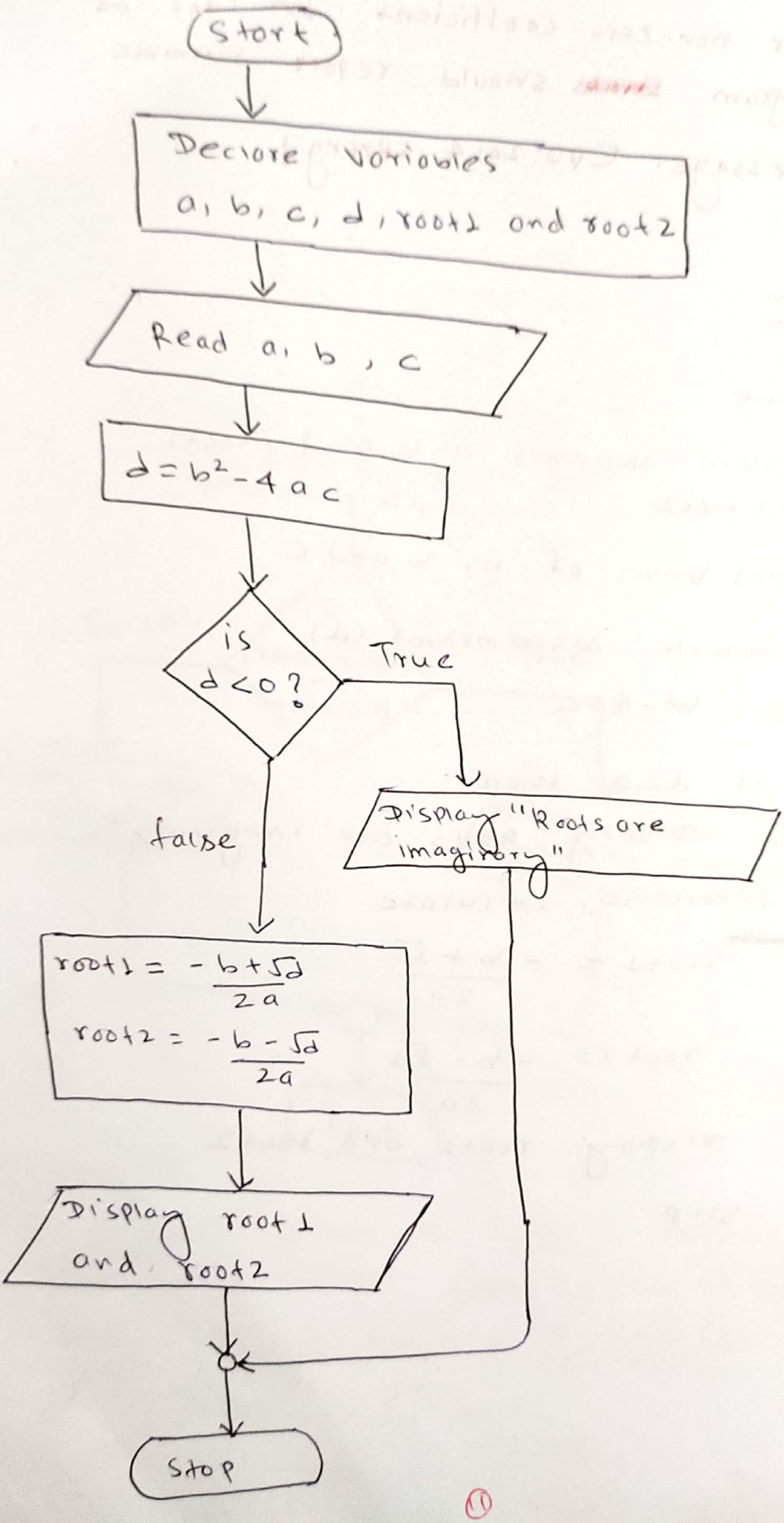
$$root1 = \frac{-b + \sqrt{d}}{2a}$$

$$root2 = \frac{-b - \sqrt{d}}{2a}$$

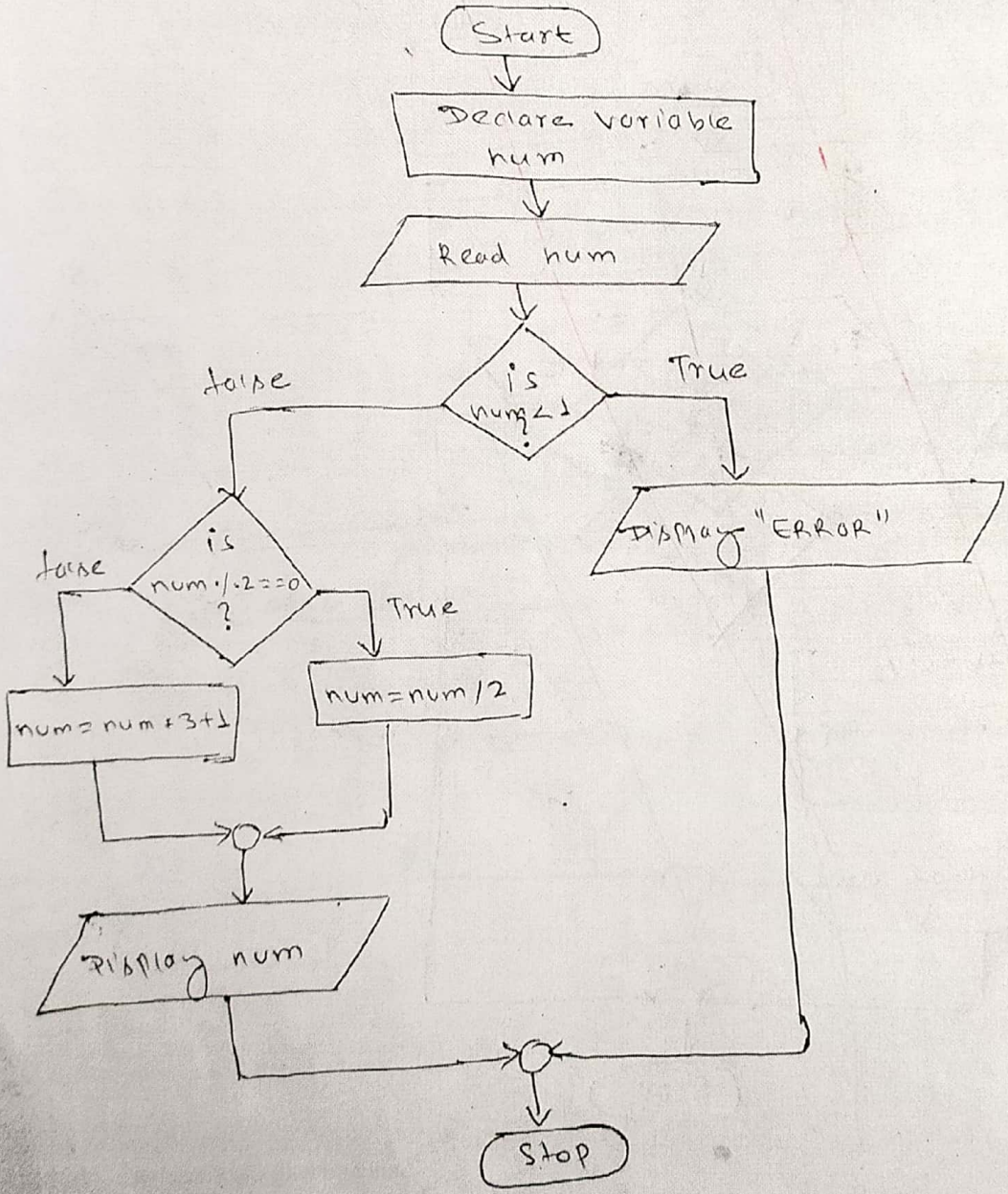
Display root1 and root2

Step 6: Stop

flowchart



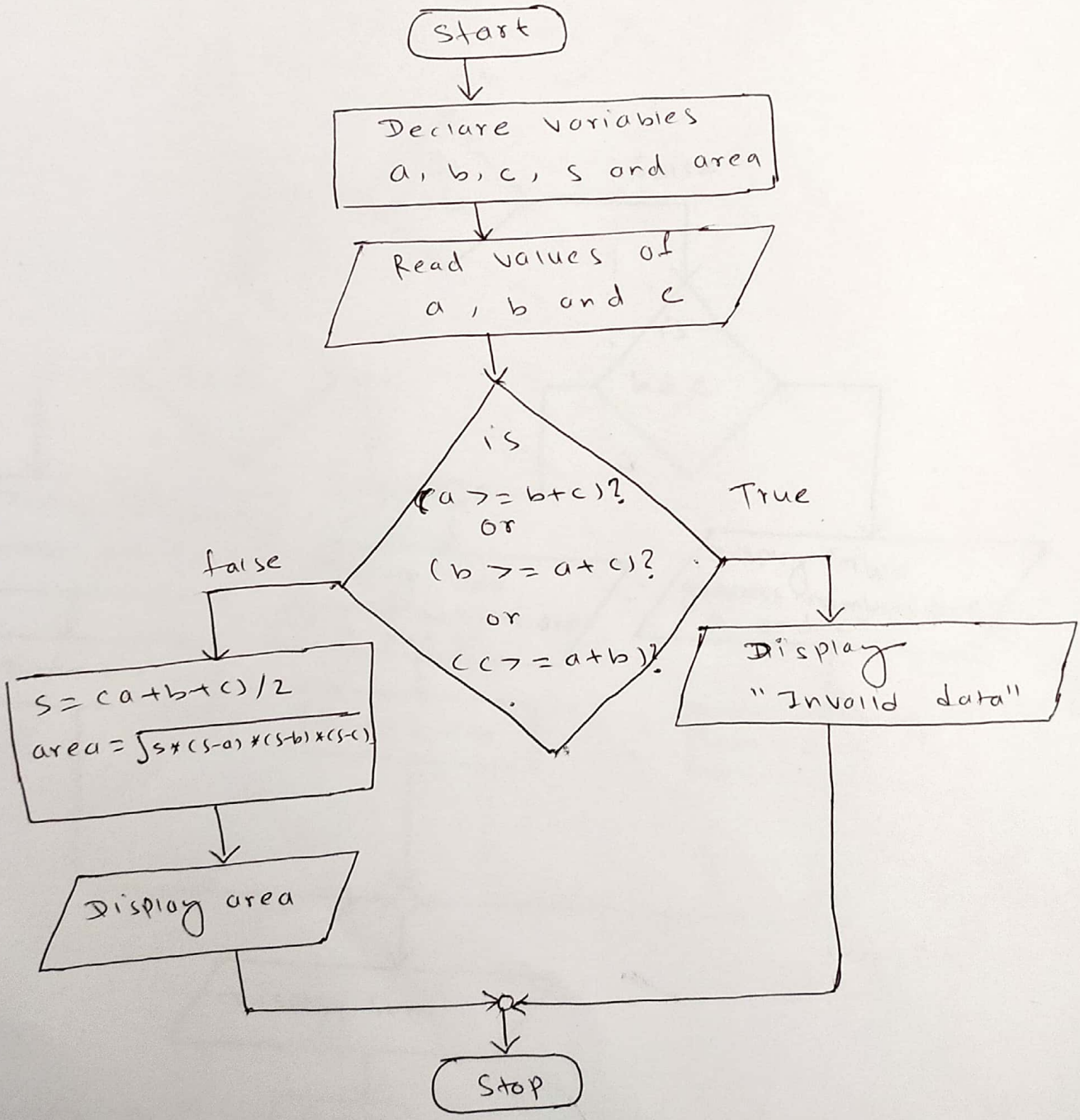
Draw a flowchart to read a positive integer value and compute the following sequence. If the number is even half it, if it is odd, multiply by 3 and add 1. Print the result. If input value is less than 1, print a message containing the word "ERROR" [CPU: 2007 Spring]



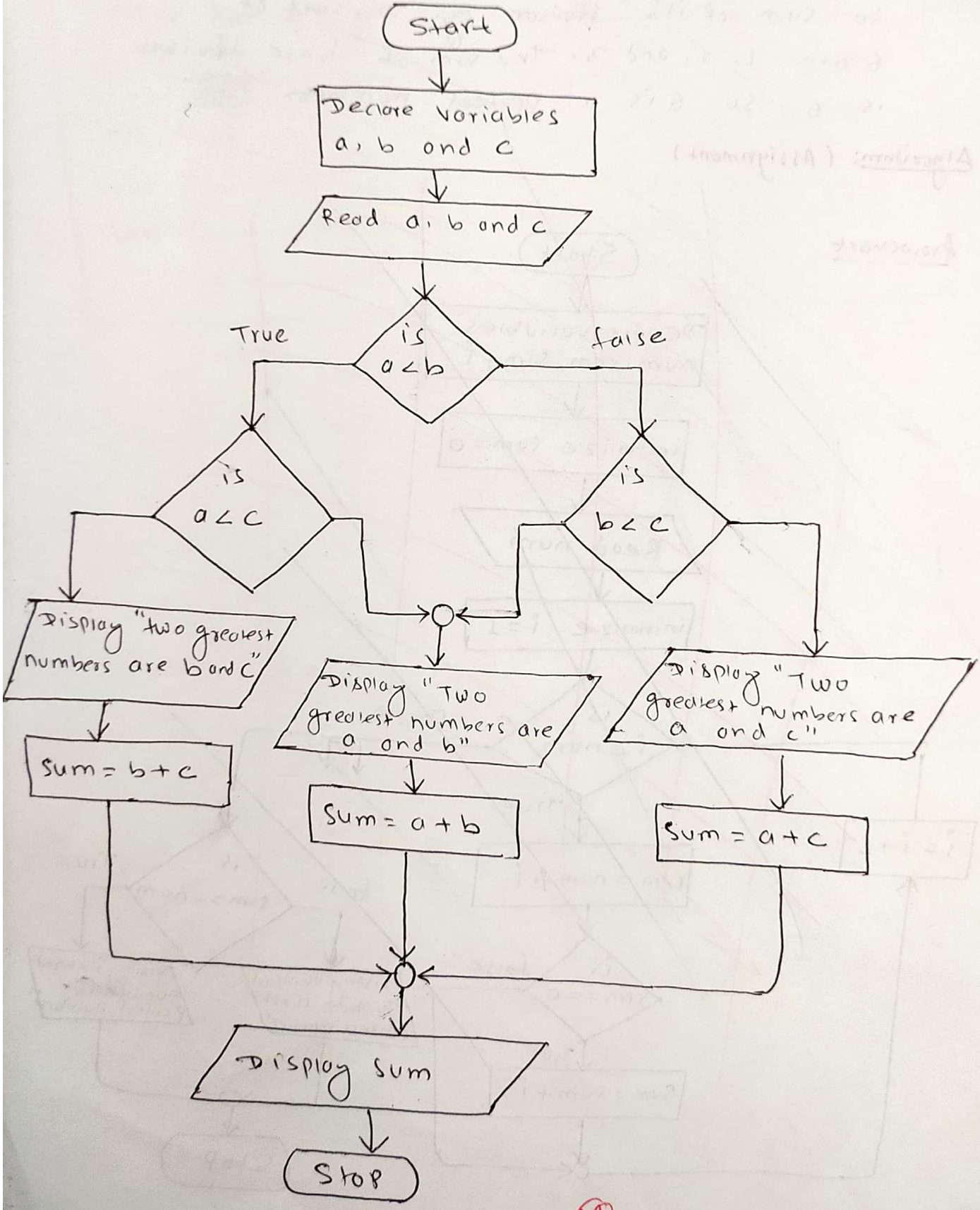
Draw a flowchart to read the three sides of triangle and print area for the valid data and print "Invalid data" if either one side of the triangle is greater or equals to the sum of other two sides.

(Area = $\sqrt{s(s-a)(s-b)(s-c)}$) where a, b, c are three sides and s = (a+b+c)/2

[CPU: 2009 spring]

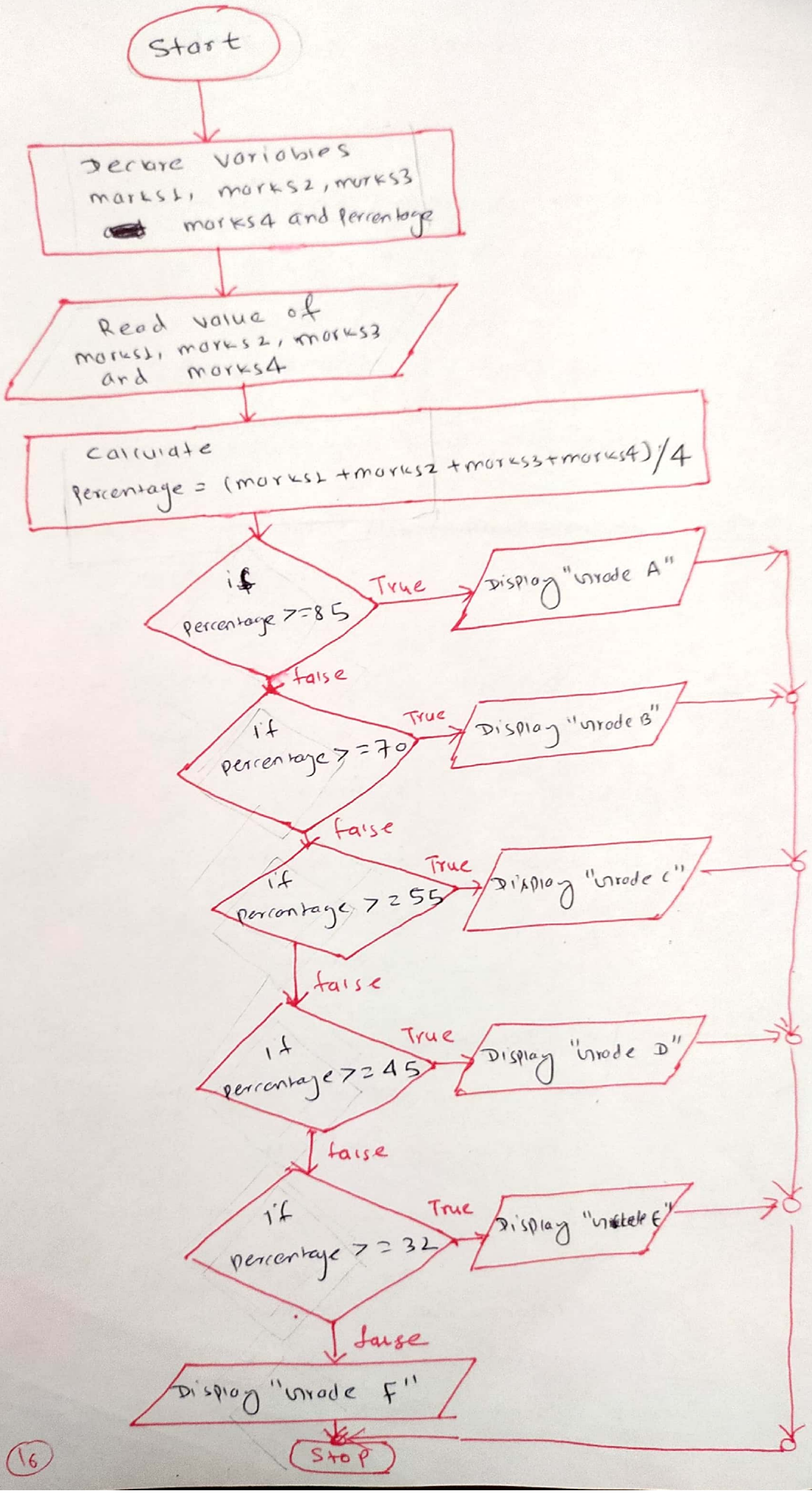


(28) Draw a flowchart to read three integer numbers and find sum of greater two numbers among them.



Draw a flowchart to find out the grade of student when the marks of four subjects are given. The method of assigning grade as:

Percentage	Grade
More than or equal to 85	A
less than 85 or more than or equal to 70	B
less than 70 or more than equals to 55	C
less than 55 or more than equal to 45	D
less than 45 or more than equal to 32	E
less than 32	F



Algorithm (Not needed for above question)

Step 1: Start

Step 2: Declare variables marks1, marks2, marks3, marks4 and percentage

Step 3: Read marks of 4 subjects marks1, mark2, marks3 and marks4

Step 4: Calculate percentage = (marks1+marks2+marks3+marks4)/4

Step 5: if percentage is more than or equal to 85
Display "Grade A" and goto step 11
otherwise continue

Step 6: if percentage is more than or equal to 70
Display "Grade B" and goto step 11
otherwise continue

Step 7: if percentage is more than or equal to 55
Display "Grade C" and goto step 11
otherwise continue

Step 8: if percentage is more than or equal to 45
Display "Grade D" and goto step 11
otherwise, continue

Step 9: if percentage is more than or equal to 32
Display "Grade E" and goto step 11
otherwise, continue

Step 10: Display "Grade F"

Step 11: Stop

Write an Algorithm and draw a flowchart to print even numbers between 150 to 500. [PU: 2016 fall]

Algorithm

Step 1 : Start

Step 2 : Declare variable i

Step 3 : initialize i = 151

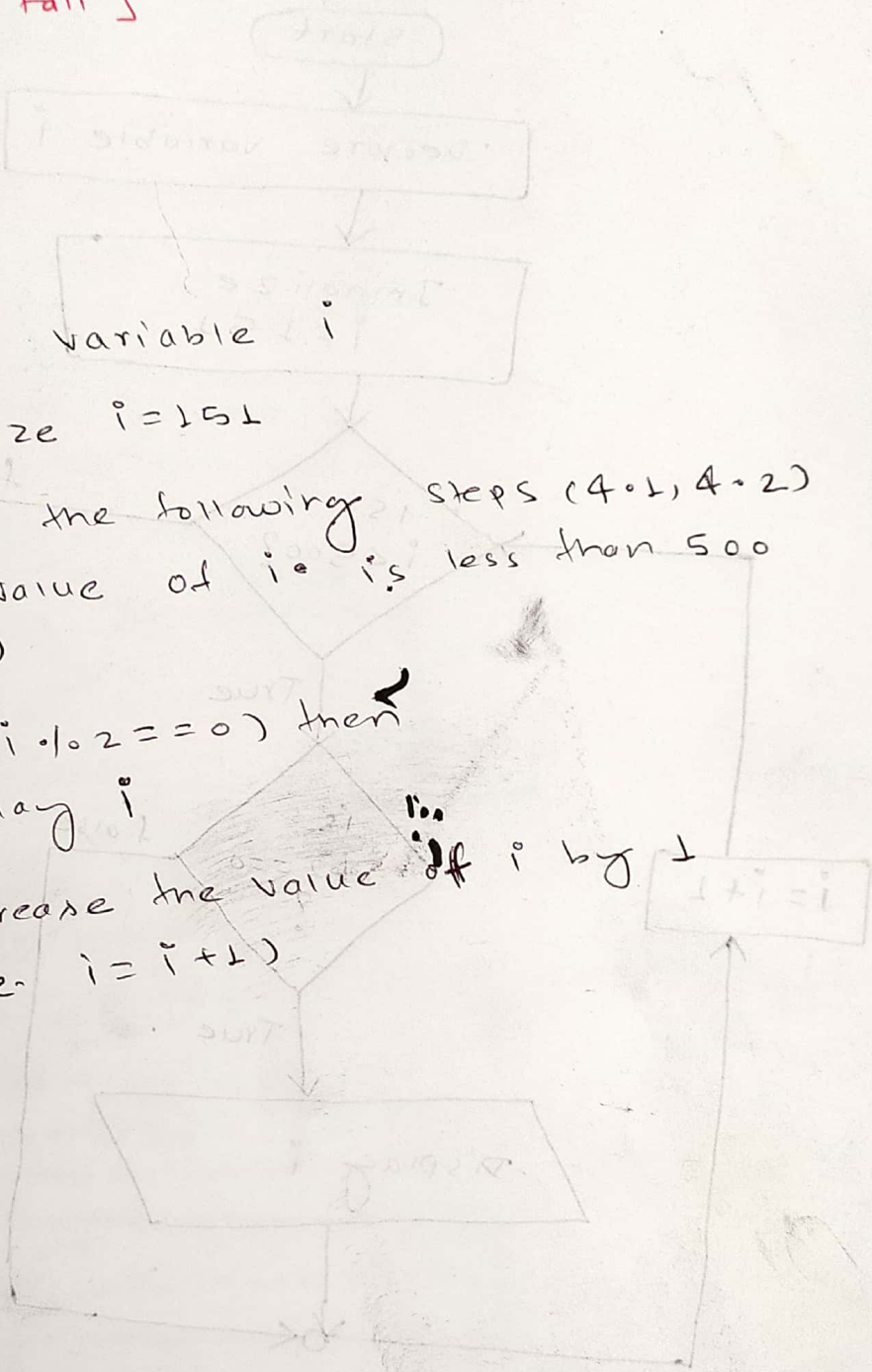
Step 4 : Repeat the following steps (4.1, 4.2) until value of i is less than 500 (i < 500)

4.1. If (i % 2 == 0) then
display i

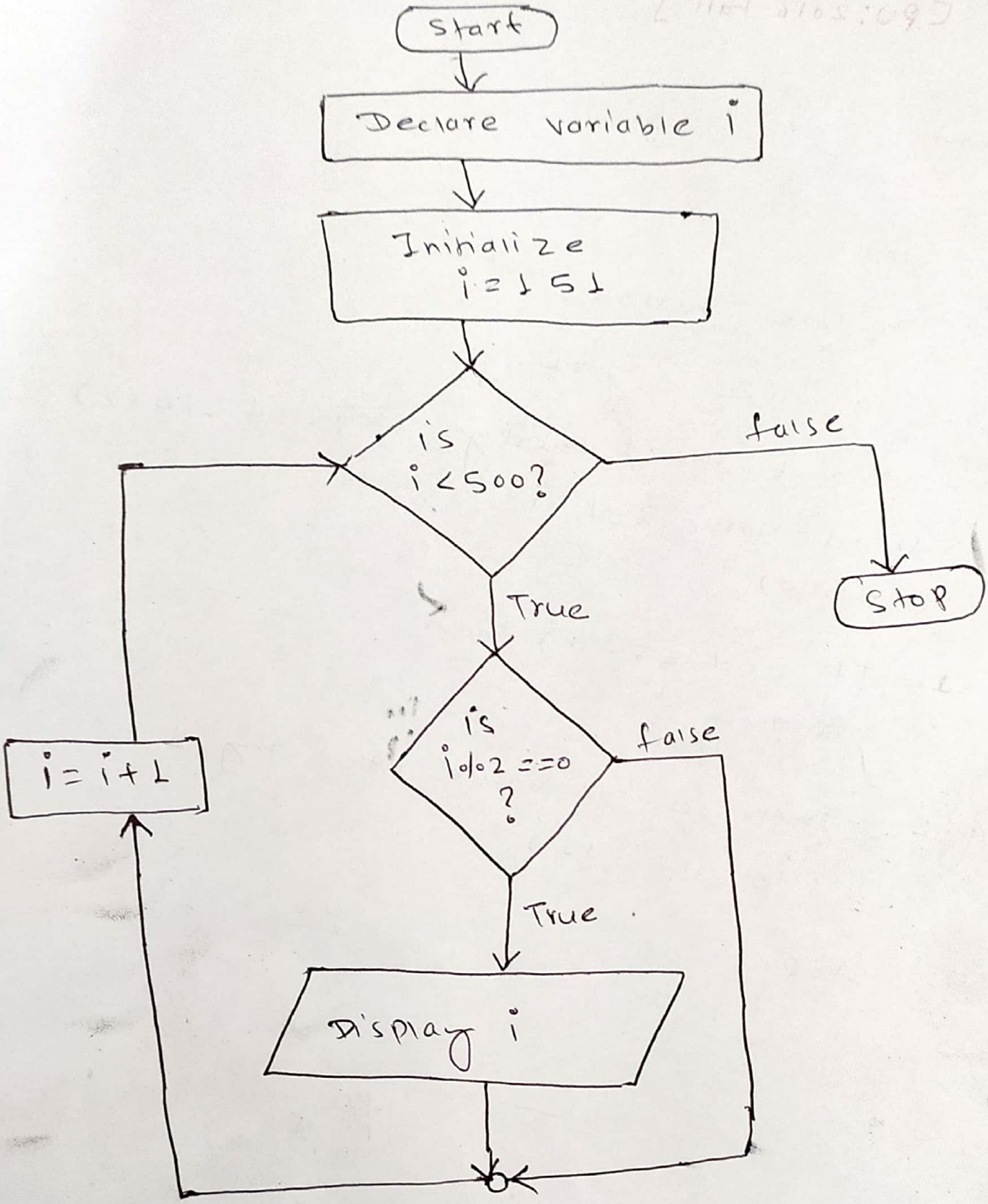
4.2 Increase the value of i by 1
(ie. i = i + 1)

Step 5 : Stop

~~Alternative~~



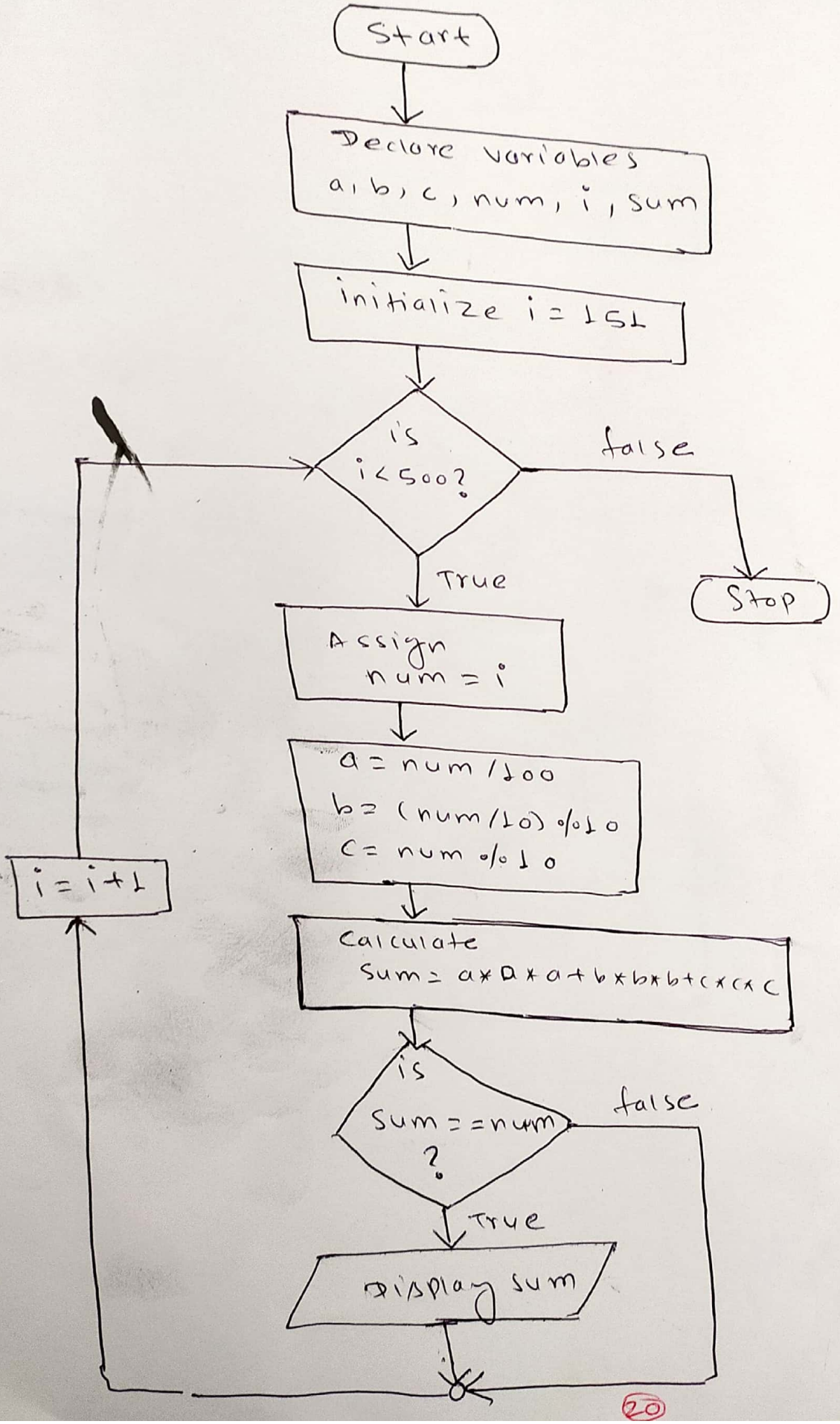
flowchart:



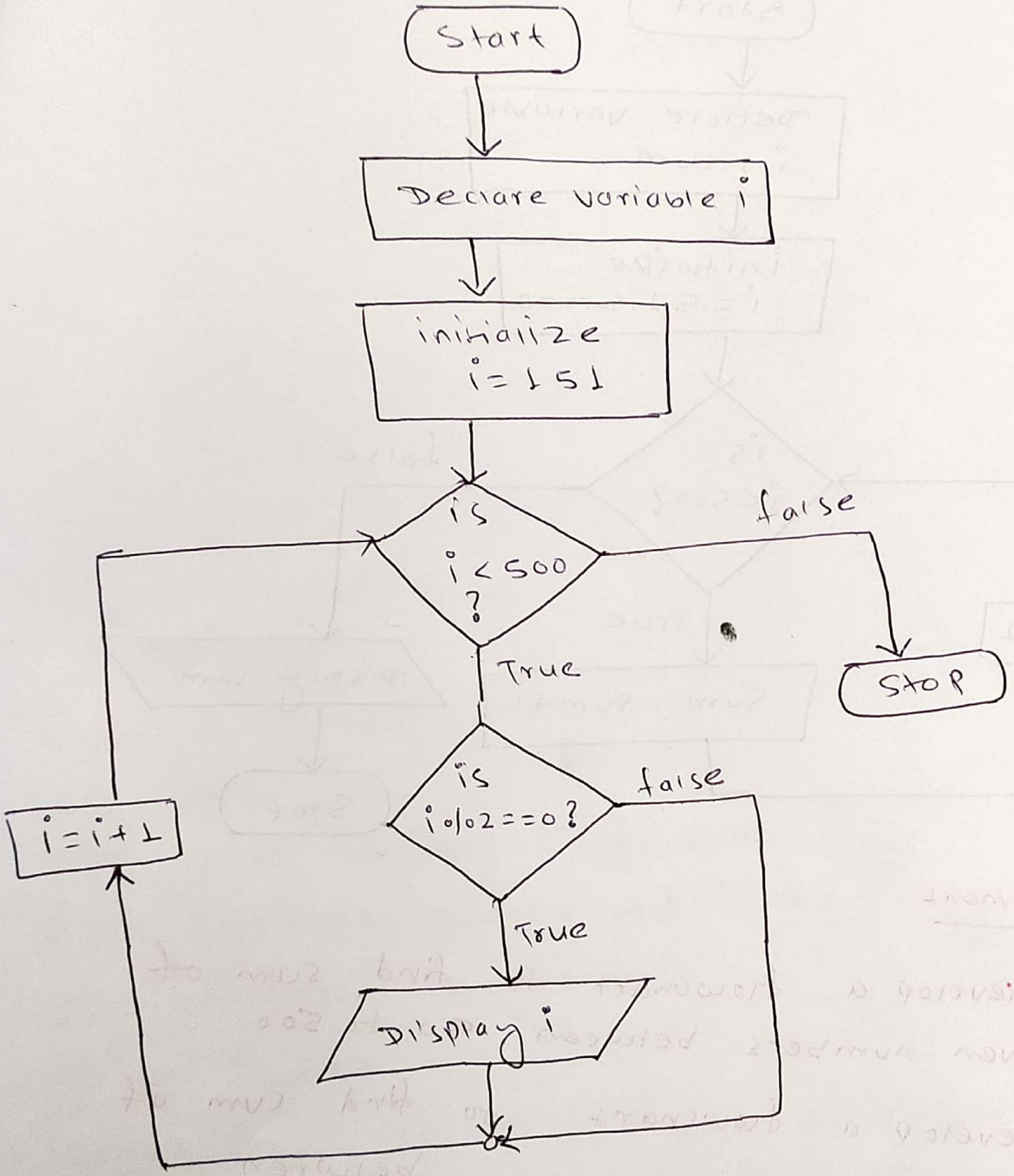
Assignment:

Draw a flowchart to print the odd number from 20 to 200.

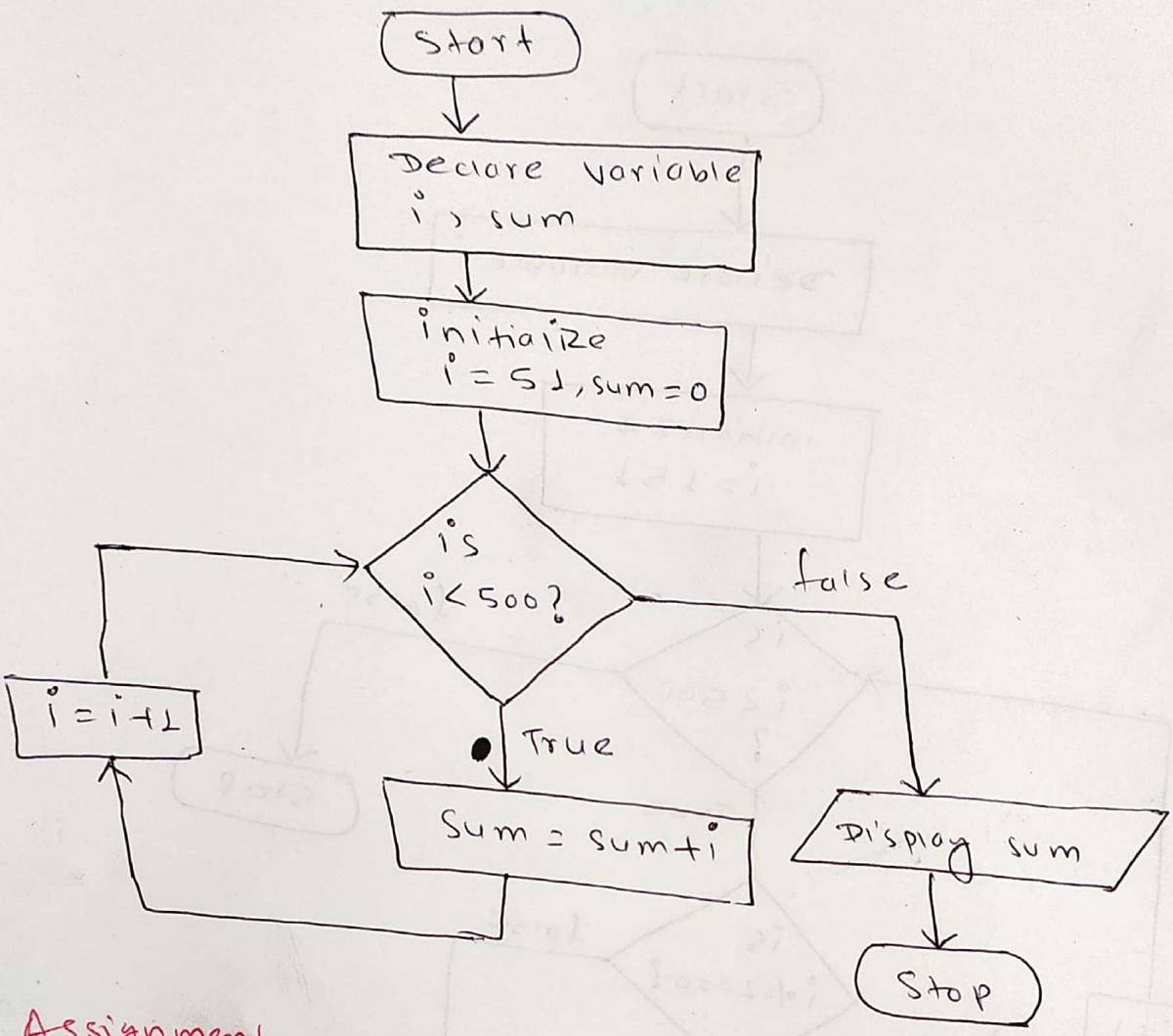
Develop a flowchart to print the Armstrong number between 150 to 500. [CU: 2018 spring]



Develop a flowchart to print the even number between 150 to 500. [pu: 2018 spring]



Develop a flowchart to find the sum of numbers between 50 to 500.



Assignment

→ Develop a flowchart to find sum of even numbers between 50 to 500

→ Develop a flowchart to find sum of odd and even numbers between 50 to 500.

→ find the sum of numbers exactly divisible by 5 but not 7 from 200 to 500.

Algorithm to find the sum of numbers between 50 to 500.

Step 1: Start

Step 2: Declare variable i and sum

Step 3: Initialize sum = 0 and i = 51

Step 4: perform the following steps until value of i is less than 500 (i.e i < 500)

4.1 sum = sum + i

4.2 i = i + 1

Step 5: print sum

Step 6: Stop

Alternative solution

Step 1: Start

Step 2: Declare varibles i and sum

Step 3: Initialize sum = 0 and i = 51

Step 4: calculate sum = sum + i

Step 5: i = i + 1

Step 6: check if i is less than 500

Step 7: If step 6 is true goto step 4 otherwise continue

Step 8: Stop

15) Write an Algorithm and draw a flowchart to find the sum of n natural number.

Algorithm:

Step 1: Start

Step 2: Declare variables i, n and sum

Step 3: Initialize sum = 0 and i = 1

Step 4: Read value of n

Step 5: Repeat following steps (5.1 and 5.2) until i <= n

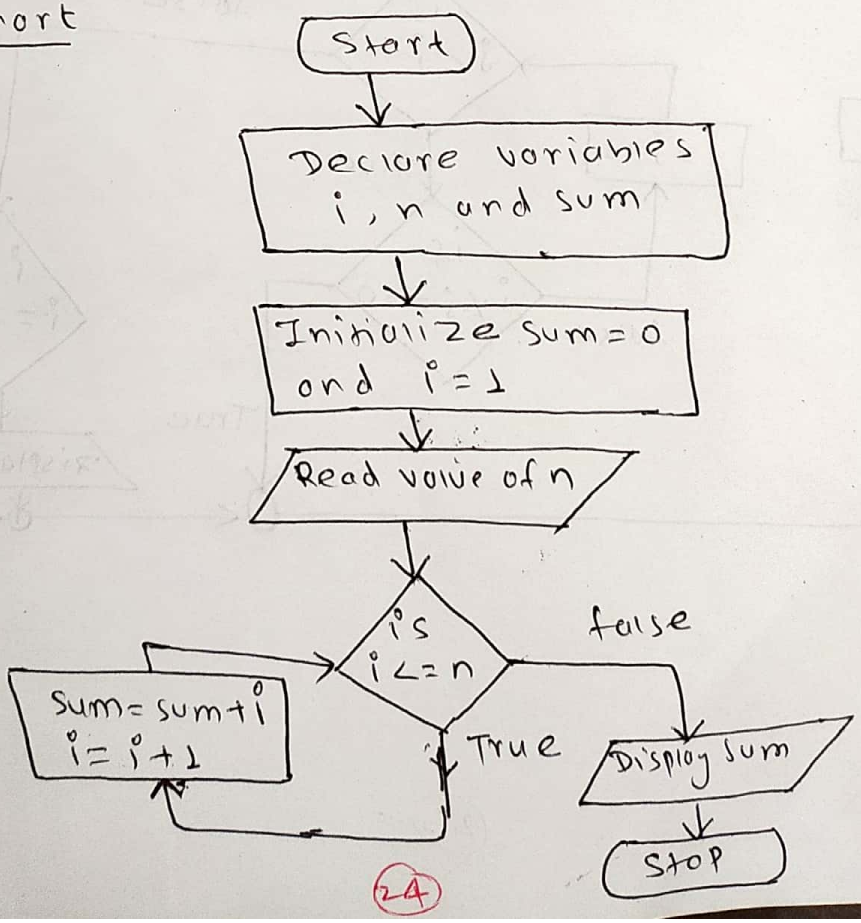
5.1 sum = sum + i

5.2 i = i + 1

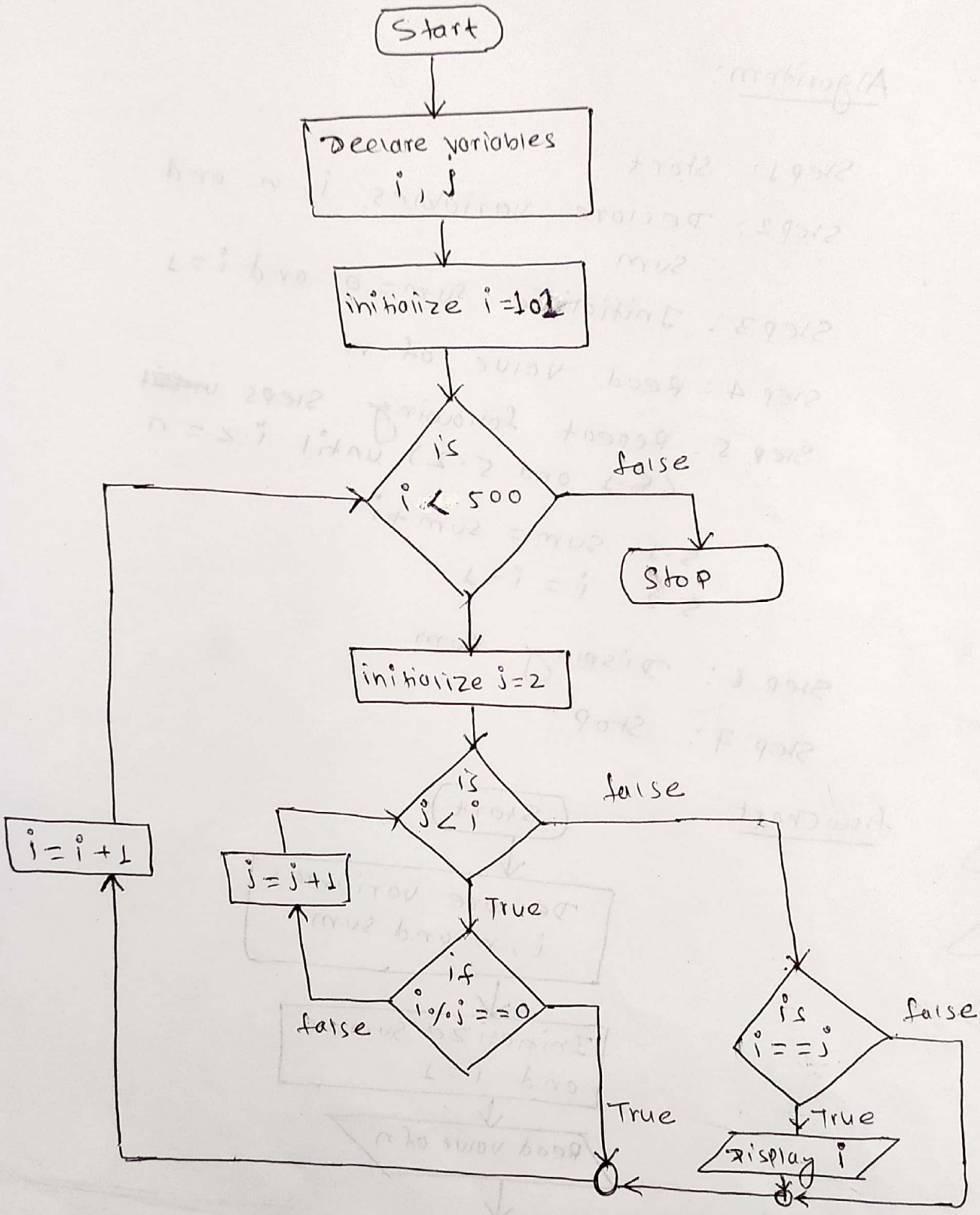
Step 6: Display sum

Step 7: Stop

flowchart



Flowchart to print prime numbers between 100 to 500:



7) Write an Algorithm and Drow flowchart to count positive and negative number in n given number.

Algorithm:

Step 1: Start

Step 2: Declare variable pcount, ncount, counter, n and number

Step 3: Initialize pcount = 0, ncount = 0 and counter = 1

Step 4: Read value of n

Step 5: Repeat the following steps (5.1, 5.2, 5.3) until counter <= n

5.1 Read number

5.2 if number < 0 then.

ncount = ncount + 1

otherwise

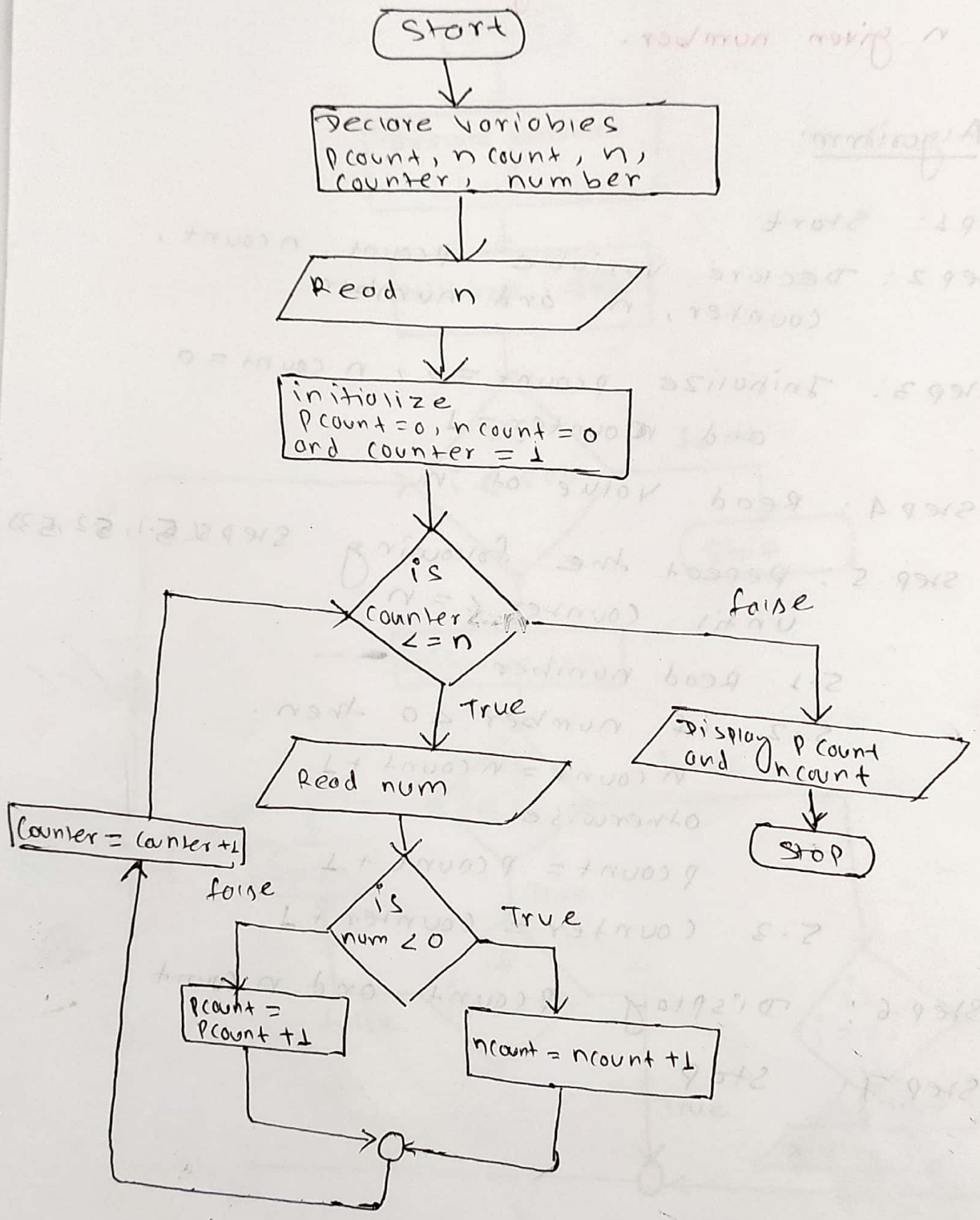
pcount = pcount + 1

5.3 counter = counter + 1

Step 6: Display pcount and ncount

Step 7: Stop

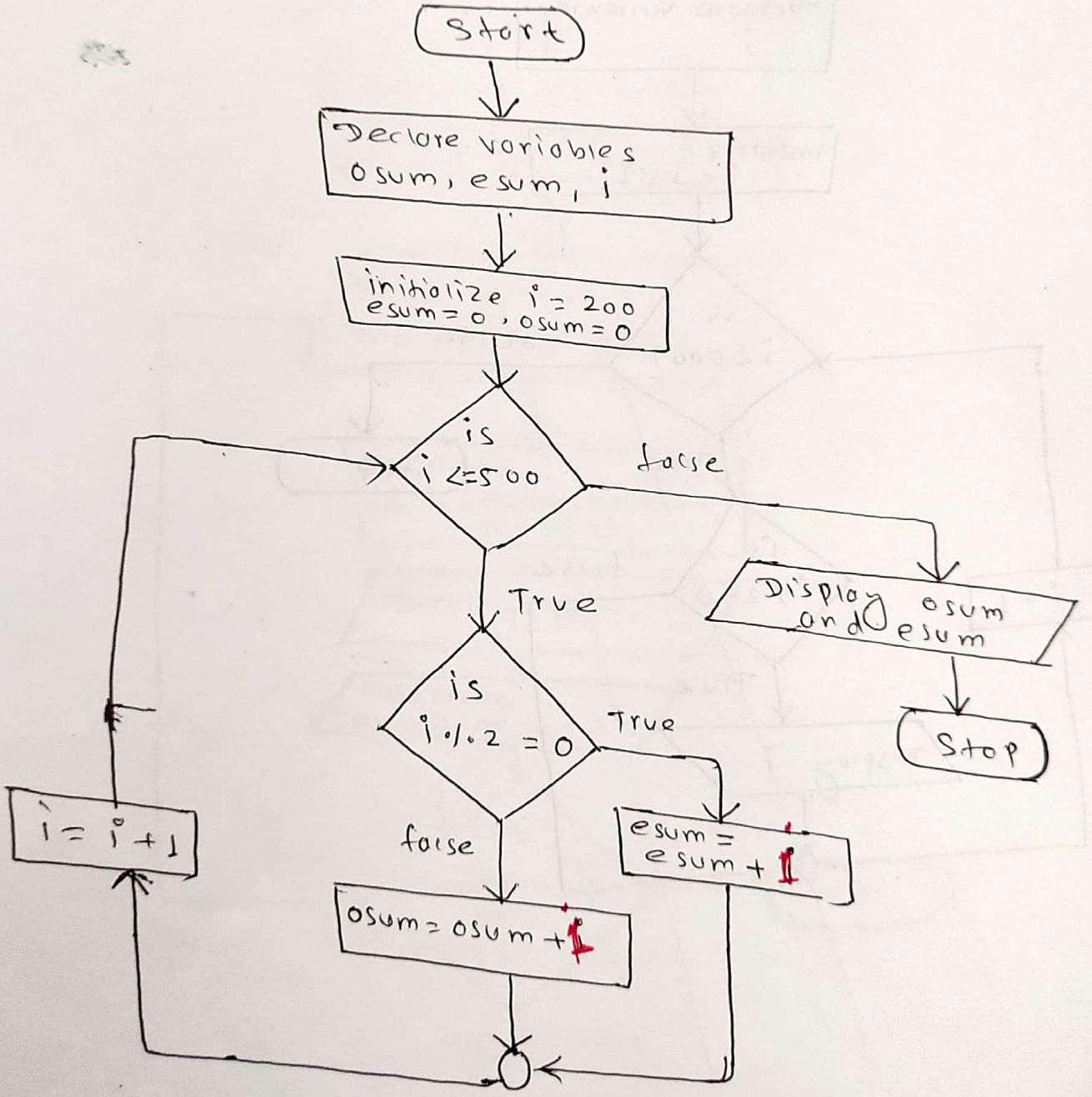
flowchart



2) Write an Algorithm and draw a flowchart to display sum of even and odd numbers from 200 to 500

Algorithm: (Do yourself).

flow chart:



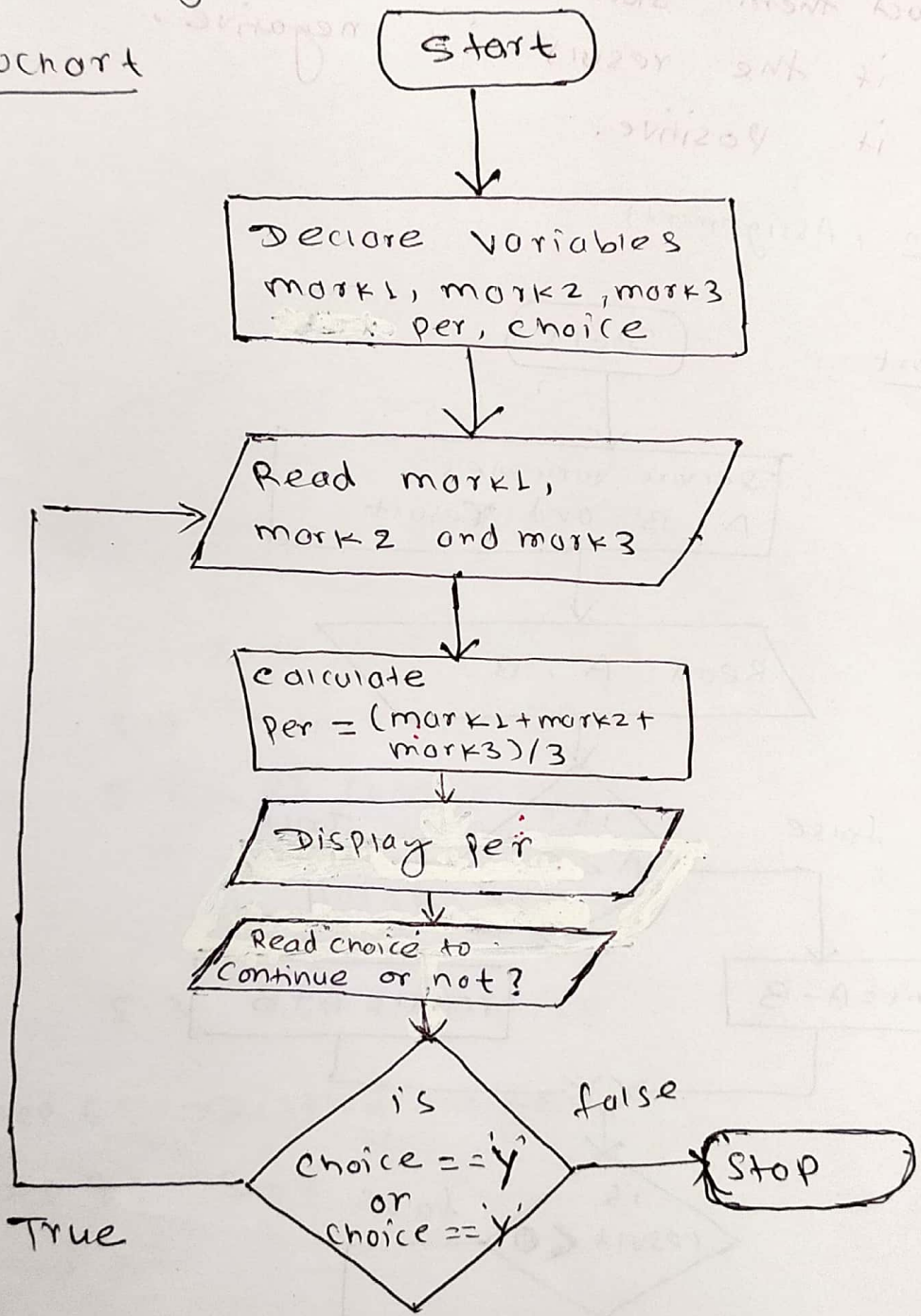
Assignment:

Develop a flowchart to print even numbers between 150 to 500

Write an algorithm and draw flowchart for the stated program. Until the user presses "y", read marks of students in 3 subjects and display his/her total percentage.

Algorithm: (Do yourself)

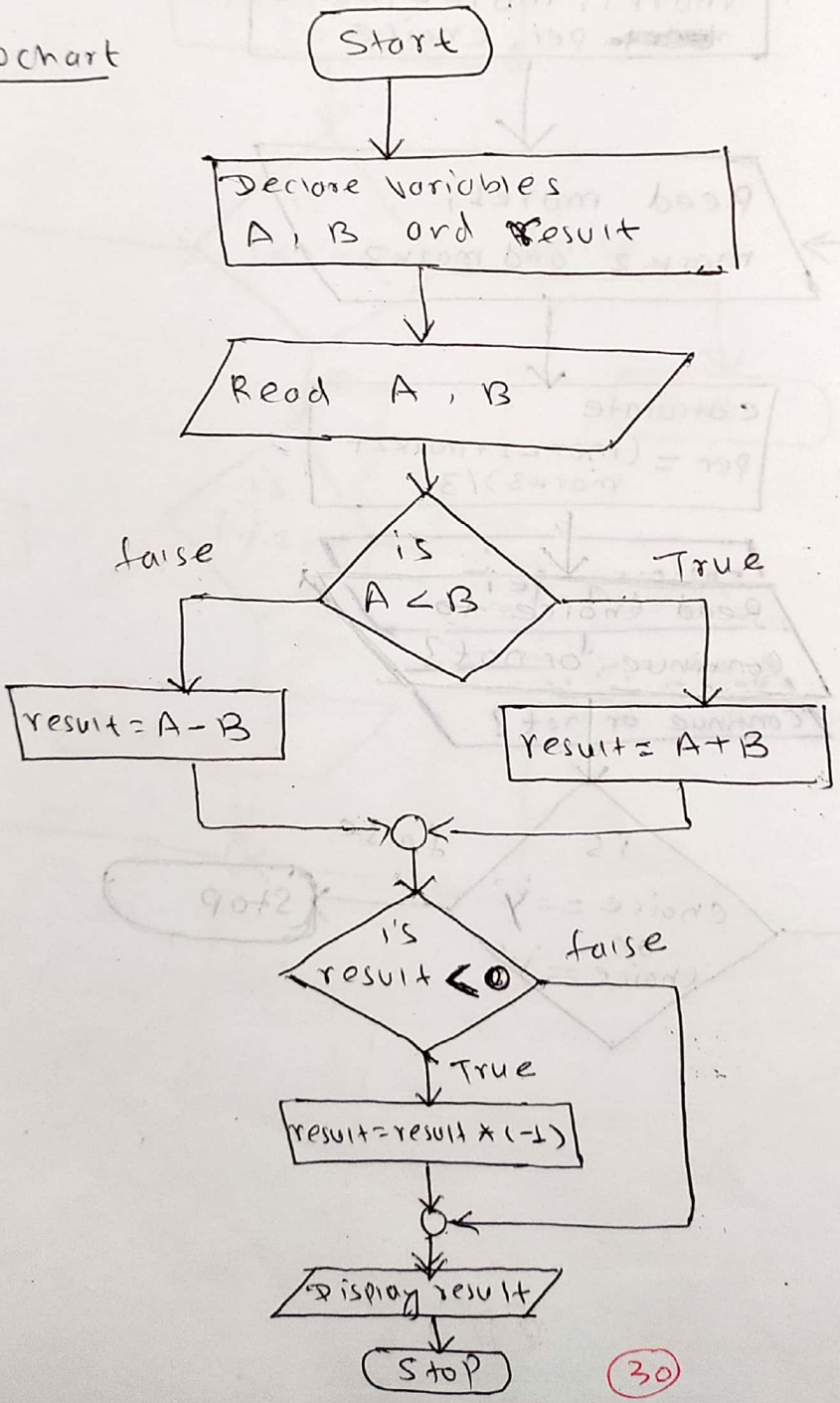
flowchart



(24) Write an Algorithm and draw flowchart for the following. Read two numbers from user (say A and say B). If A is less than B add them otherwise subtract subtract them store the result. finally if the result is negative, make it positive.

Algorithm: (Assignment)

flowchart



Draw a flowchart for finding the greatest digit for the supplied number by User. [PU: 2014 fall]

[Hint: if number = 56943
Here, greatest digit = 9]

Algorithm (Not necessary for this question)

Step 1: Start

Step 2: Declare variables num, large, rem

Step 3: Initialize large = 0

Step 4: Read num

Step 5: Repeat the following steps (5.1, 5.2, 5.3) until the number is not equals to zero (i.e. num != 0)

5.1 rem = num % 10

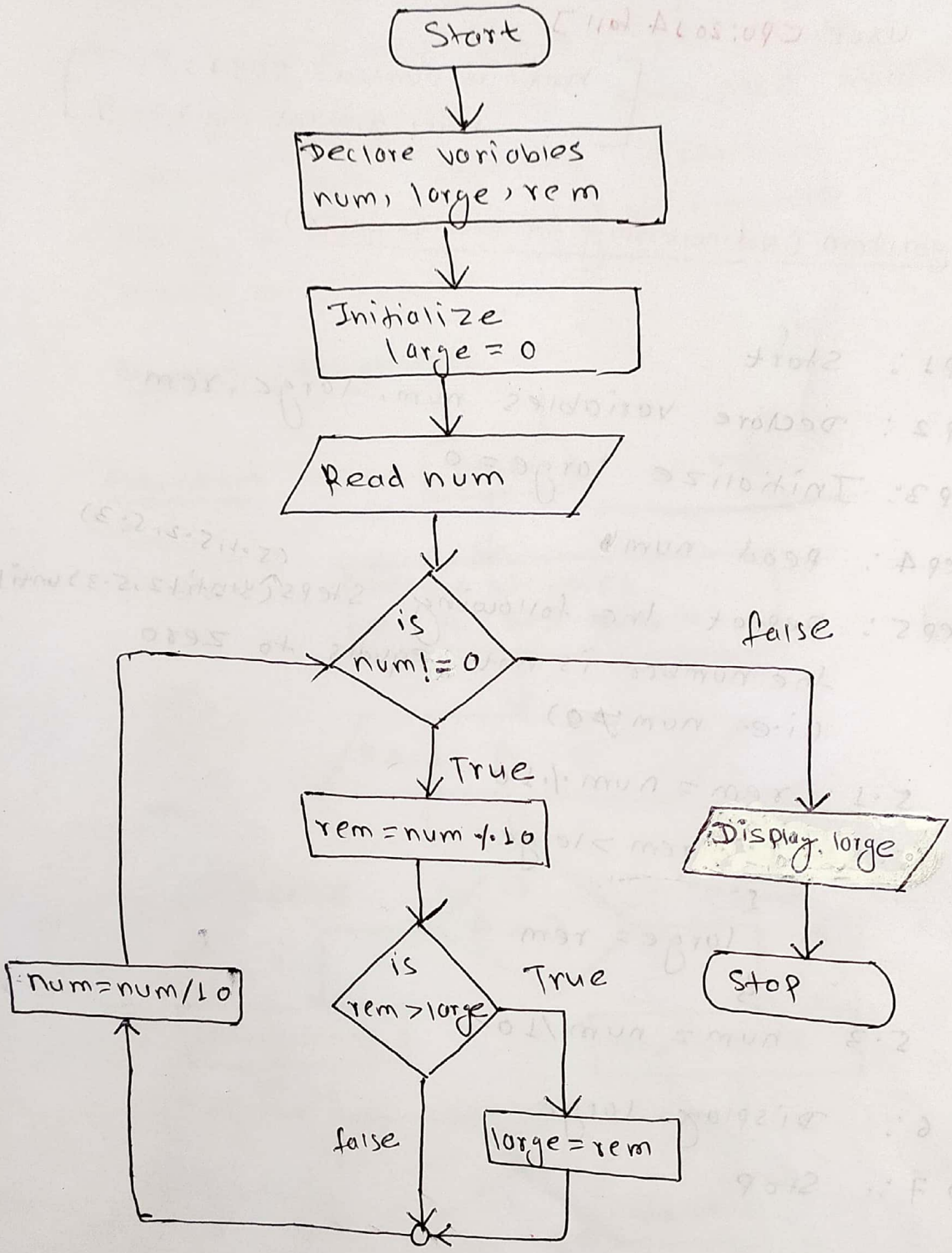
5.2 if (rem > large)
{
large = rem
}

5.3 num = num / 10

Step 6: Display large

Step 7: Stop

flowchart



Write algorithm and drow a flow chart to input a number and check it is prime or not. [CPU:2015 spring]

Algorithm:

Step 1: Start

Step 2: Declare variables num, rem, i

Step 3: Initialize i = 2

Step 4: Read num

Step 5: Repeat the following steps (5.1 and 5.2) until i < num

5.1 Calculate rem = num %. i

5.2 if (rem == 0)

Display "Number is not prime" and goto step 7

otherwise

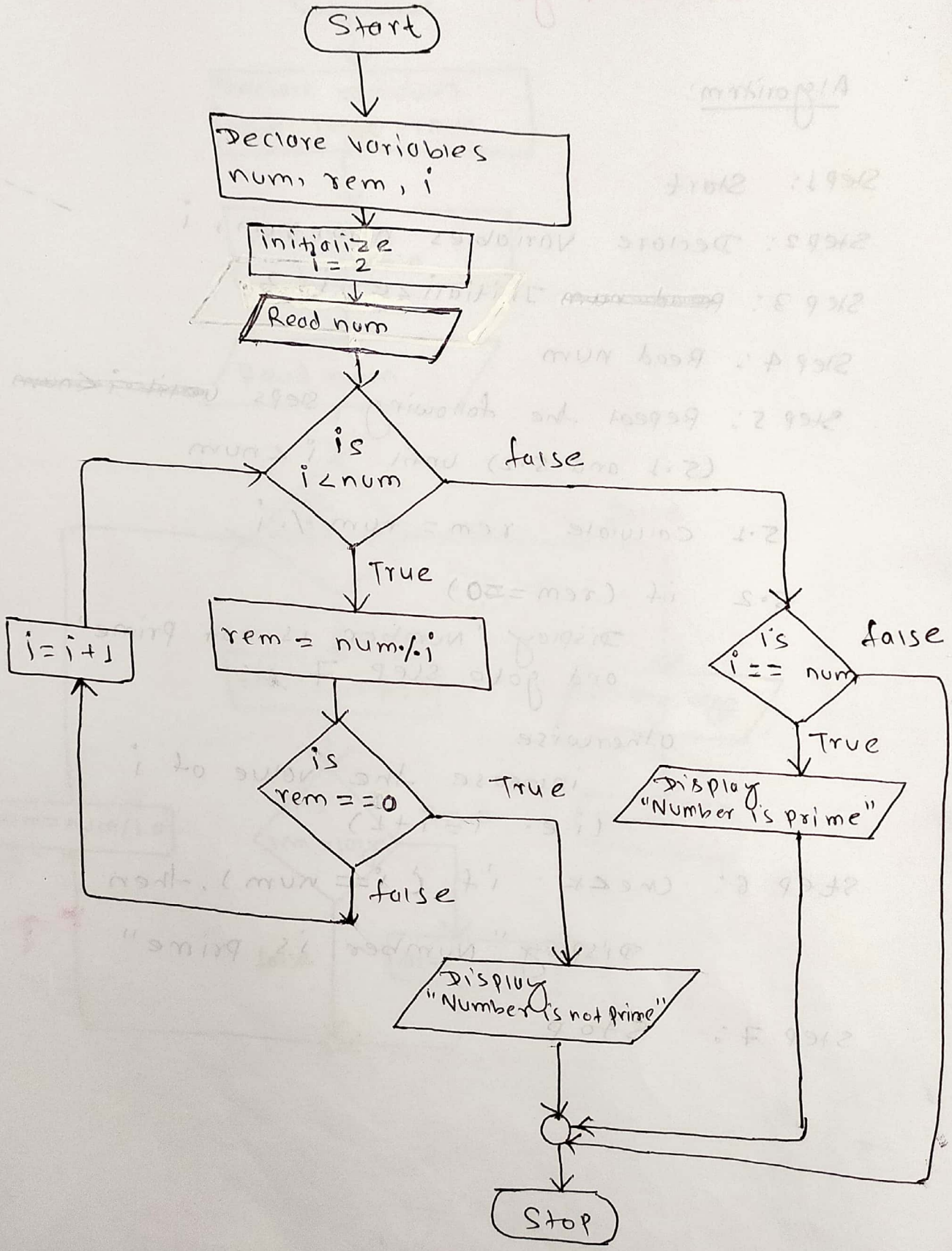
increase the value of i (i.e. i = i + 1)

Step 6: Check if (i == num). then

Display "Number is prime".

Step 7: Stop

flowchart



8) Write an algorithm and drow a neat flowchart to input number and check it is Palindrome or not. [PU: 2016 spring, 2017 spring]

Algorithm

Step 1: Start

Step 2: Declare variables num, rem, rev, a

Step 3: Initialize rev = 0

Step 4: Read num

Step 5: Assign a = num

Step 6: Repeat following steps (6.1, 6.2, 6.3) until number is not equal to zero (i.e. num != 0)

6.1 rem = num % 10

6.2 rev = rev * 10 + rem

6.3 num = num / 10

Step 7: If (a == rev)

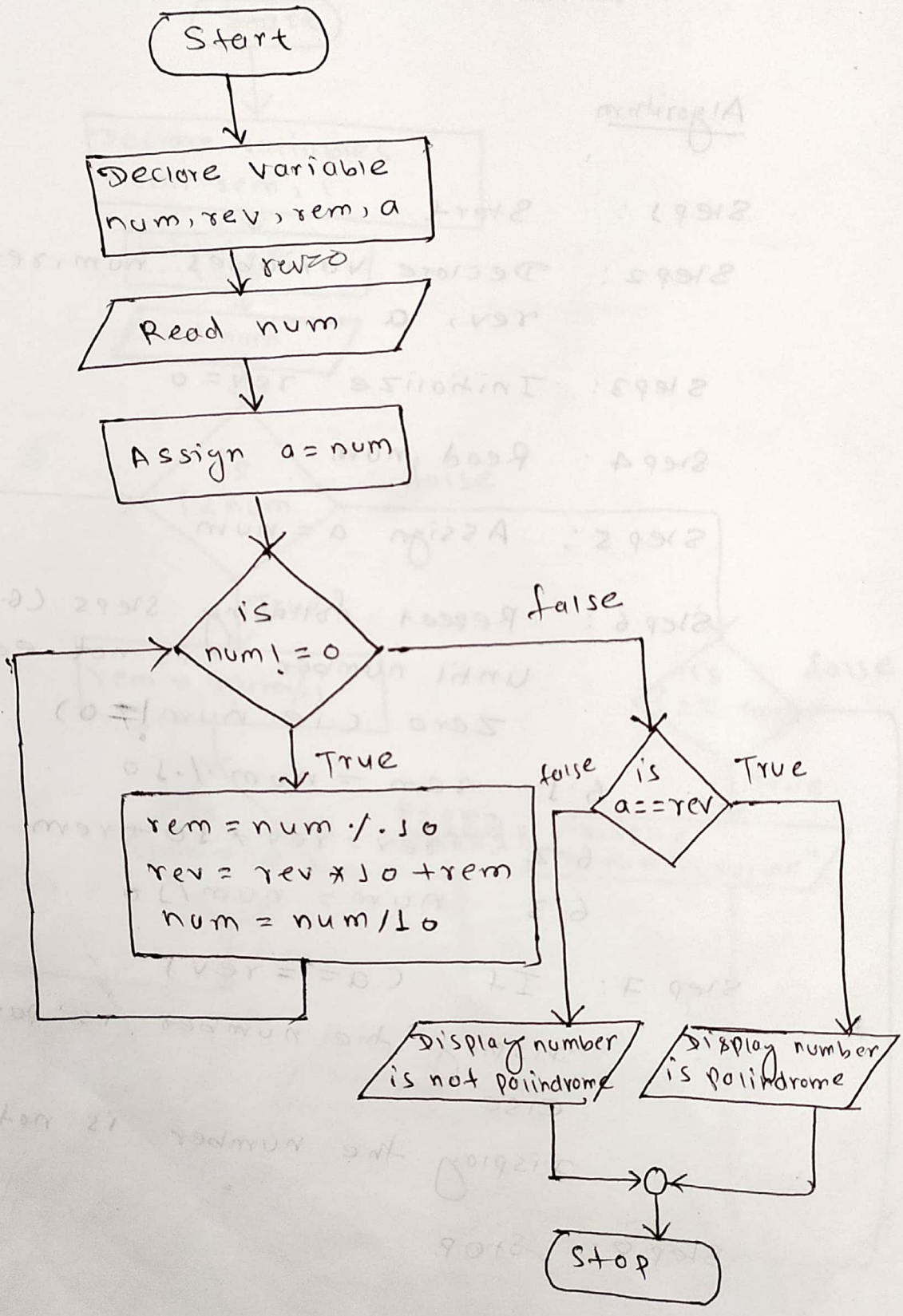
display the number is palindrome

else

display the number is not palindrome

Step 8: Stop

flowchart



(9) Write an algorithm and flowchart to find reverse of a given number.

Algorithm

Step 1 : Start

Step 2 : Declare variables num, rem, rev

Step 3: Initialize rev = 0

Step 4 : Read num

Step 5 : Repeat following steps (5.1, 5.2 and 5.3) until num != 0

5.1 rem = num %10

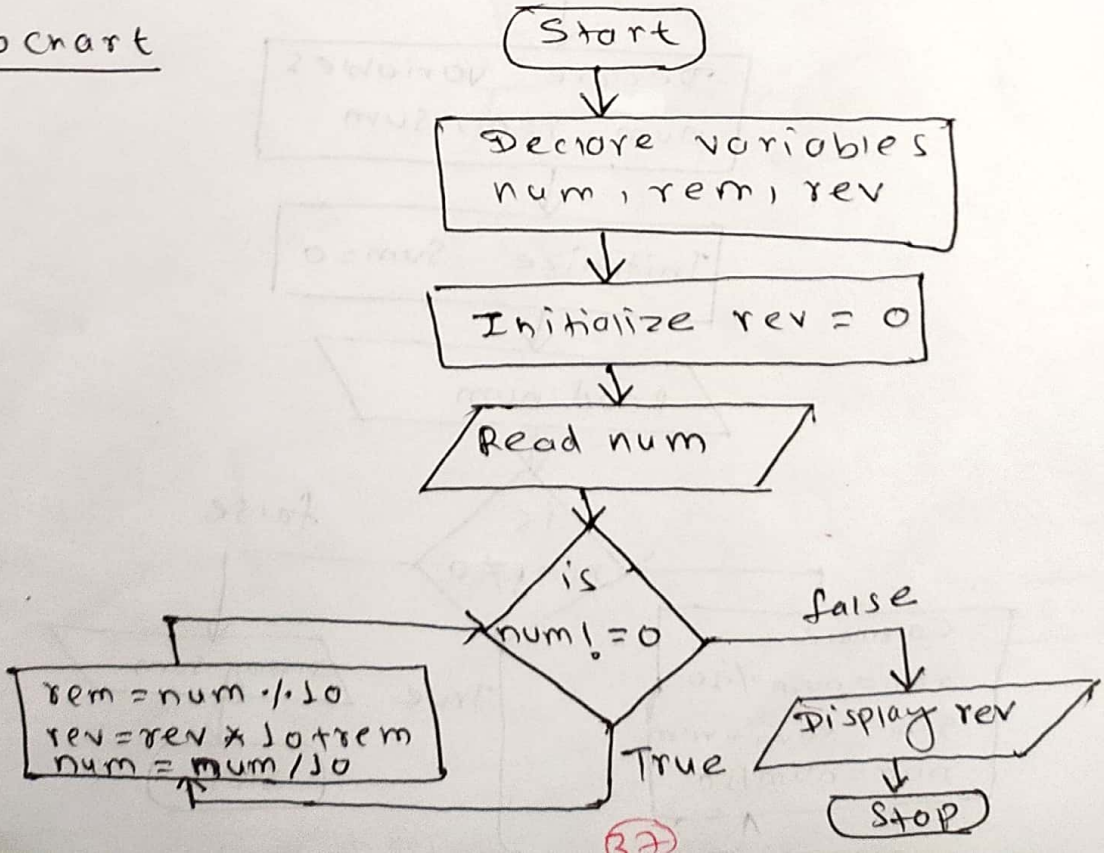
5.2 rev = rev * 10 + rem

5.3 num = num / 10

Step 6 : Display rev

Step 7 : Stop

flowchart



10) Write an Algorithm and flowchart to find sum of digits of a given numbers

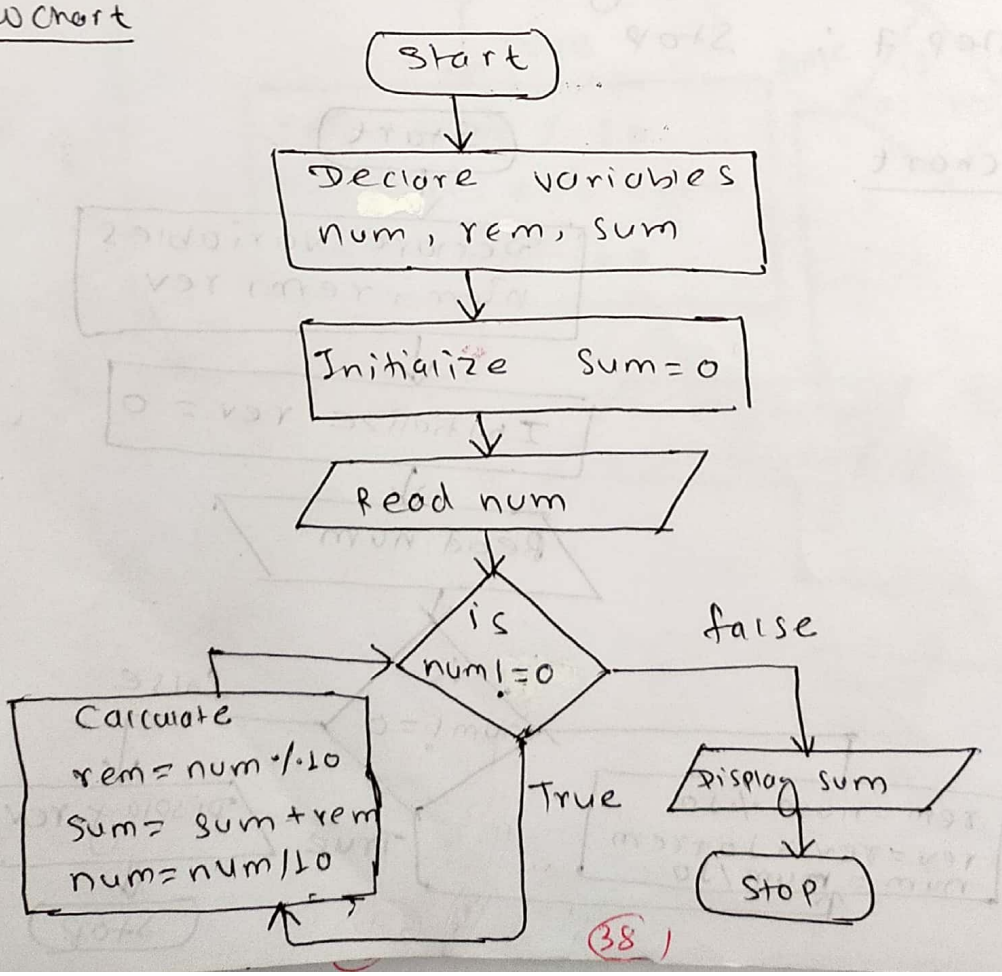
Algorithm:

Step 1: Start
Step 2: Declare variables num, rem, sum
Step 3: Initialize sum = 0
Step 4: Read num
Step 5: Repeat following steps (5.1, 5.2, 5.3)
until number is not equals to zero (i.e. num != 0)

5.1 rem = num % 10
5.2 sum = sum + rem
5.3 num = num / 10

Step 6: Display sum
Step 7: Stop

flowchart



Write an algorithm and draw a flowchart to calculate the factorial of a given number.

Algorithm:

Step 1: Start

Step 2: Declare variables num, fact, i

Step 3: Read num

Step 4: Initialize value of variables
fact = 1 and i = 1

Step 5: Repeat the following steps (5.1 and 5.2) until i is less than or equals to n (i.e. i <= n)

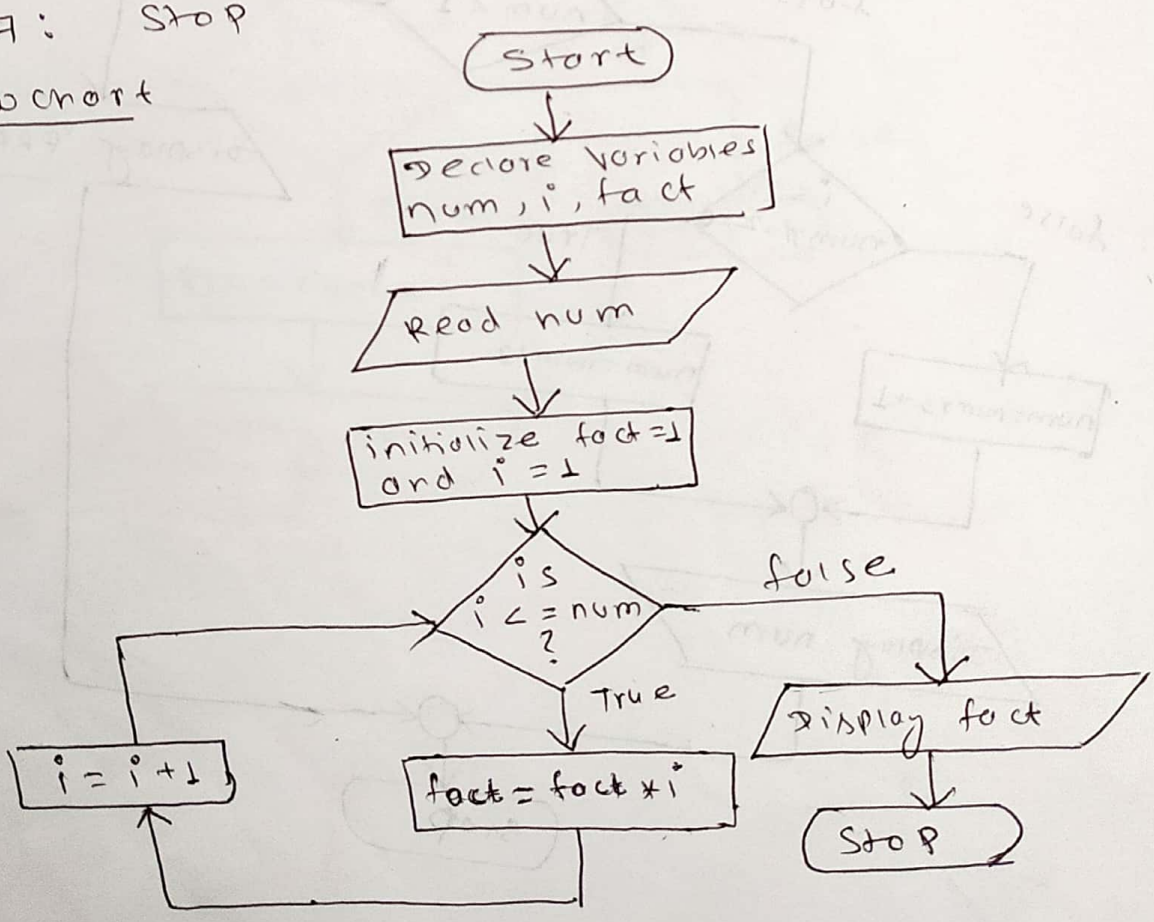
5.1 fact = fact * i

5.2 i = i + 1

Step 6: Display fact

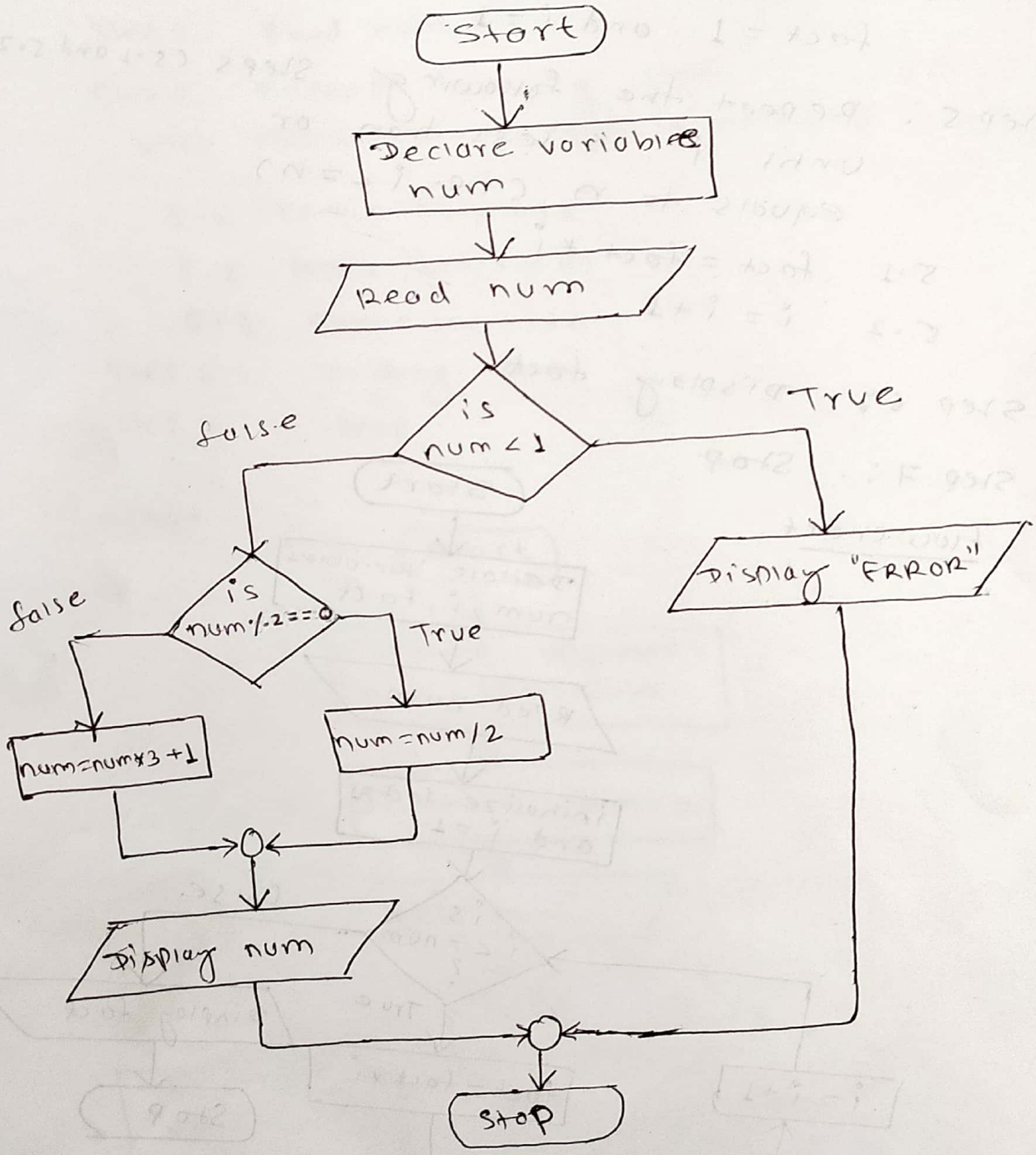
Step 7: Stop

flowchart



(19)

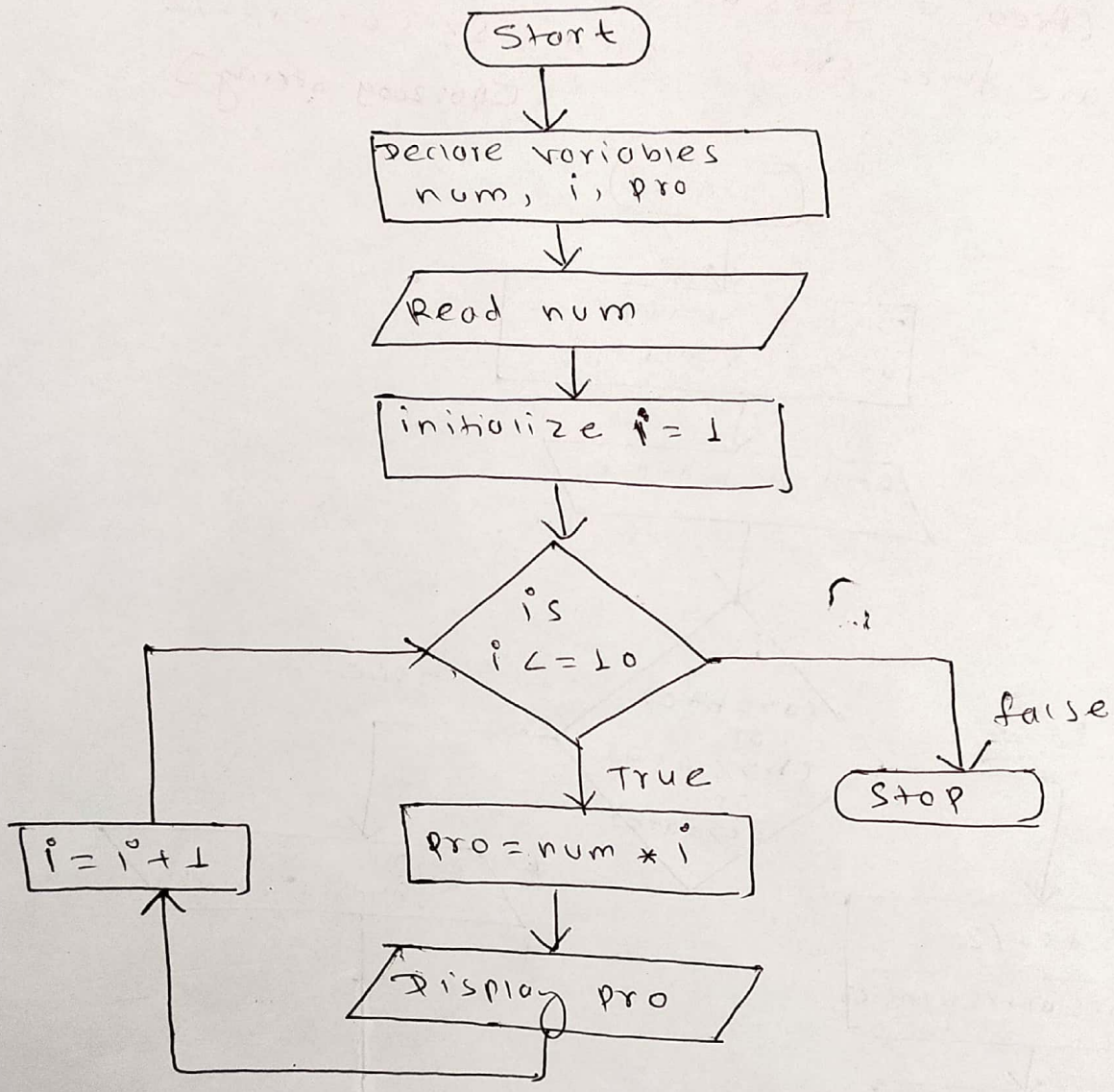
Draw a flowchart to read a positive integer value and compute the following sequence. If the number is even half it, if it is odd, multiply by 3 and add 1. Print the result. If input value is less than 1, print a message containing the word "ERROR". [PU: 2007 spring]



Write an algorithm and draw flowchart to print multiplication table of a given number.

Algorithm: (Do yourself)

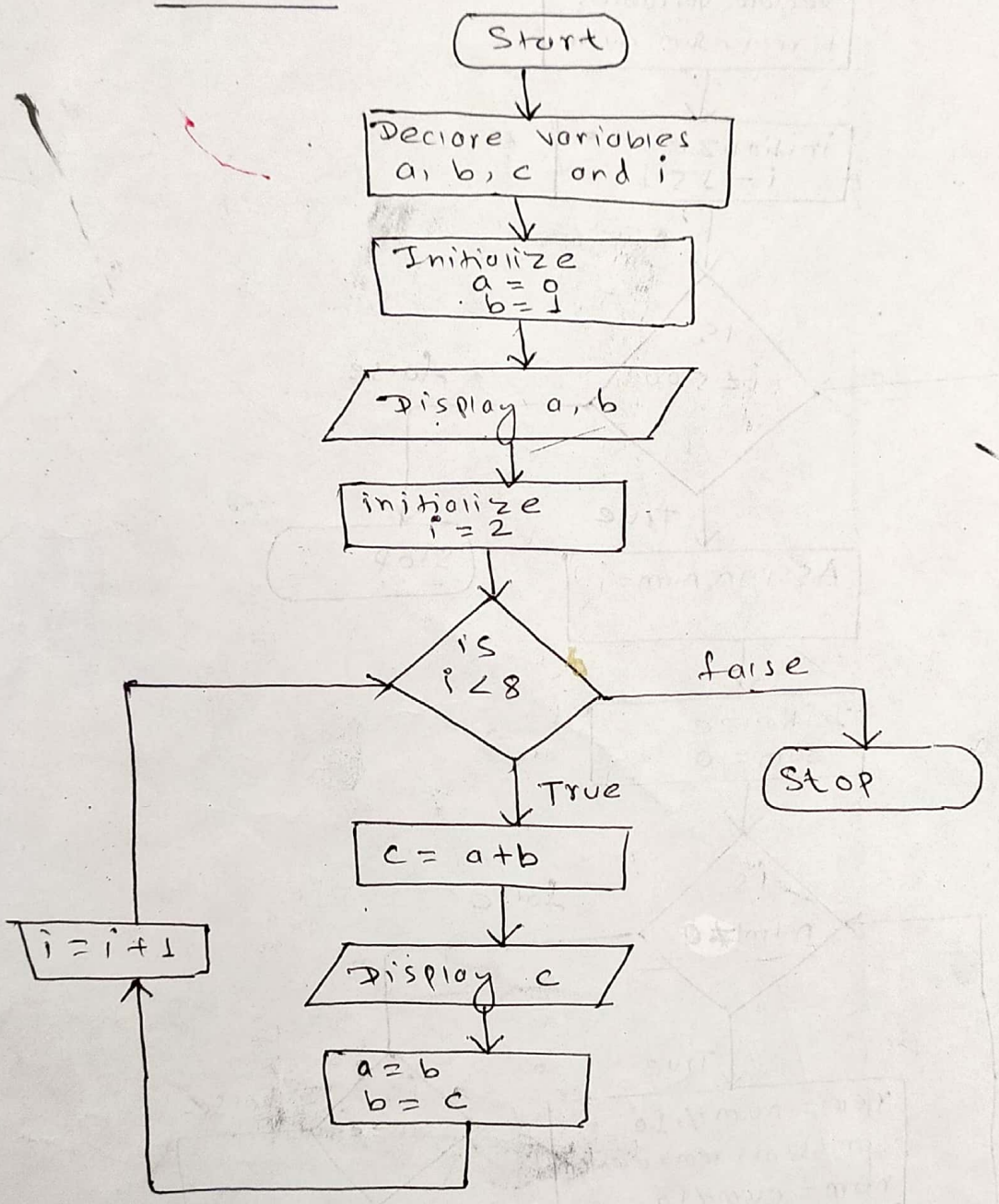
flowchart



Write algorithm and draw flowchart to generate fibonacci sequence of eight terms.
[PU: 2018 fall]

Algorithm: (Do yourself)

Flowchart:



Assignment:

Write algorithm and draw flowchart to find the nth term of fibonacci series.