# Assignment #3

Problem: Write algorithms and design flow charts of repetition-based problems.

**1. Write pseudocode and flowchart for a program that displays counting from 1-10.**

1. Start.
2. Declare number, n;
3. n=1
4. While(n<=10)
5. Print n
6. N++
7. End while
8. Stop

**2. Write pseudocode and flowchart for a program that displays the first five numbers and their sum.**

1. Start.
2. Declare sum, num
3. Sum=0, num=1
4. While (num<=5)
5. Print num
6. Sum=sum + n
7. End while
8. Print sum
9. Stop

**3. Write pseudocode and flowchart for a program that inputs a number from the user and displays a table of that number.**

1. Start
2. Declare n, I , prod
3. Input n, (number whose table is required)
4. i=1
5. while (i<=10)
6. prod=n*i
7. print n ”x” i “=” prod
8. i++
9. end while
10. stop

**4. Write pseudocode and flowchart for a program that inputs starting and ending numbers**

**from the user and displays all even numbers in the given range**.

1. Start.
2. Declare SN, EN.
3. Input the SN.
4. Input the EN.
5. While (SN! =EN)
6. If (SN%2==0)
7. Print SN
8. End if
9. SN++
10. End while
11. stop

**5. Write pseudocode and flowchart for a program where the user inputs a starting number,**

**and the program then displays back counting from that number down to 1.**

1. Start
2. Declare SN.
3. Input the SN.
4. If (SN<0)
5. Print invalid number
6. While (SN! =0)
7. Print SN.
8. SN- -
9. End while
10. Stop.

**6. Write pseudocode and flowchart for a program that displays the product of all odd**

**numbers from 1 to 10.**

1. Start.
2. Declare n, prod
3. n=1, prod=1
4. While (n<=10)
5. If (n % 2! = 0)
6. Print n
7. Prod = prod*n
8. Endif
9. N++
10. End while
11. Stop

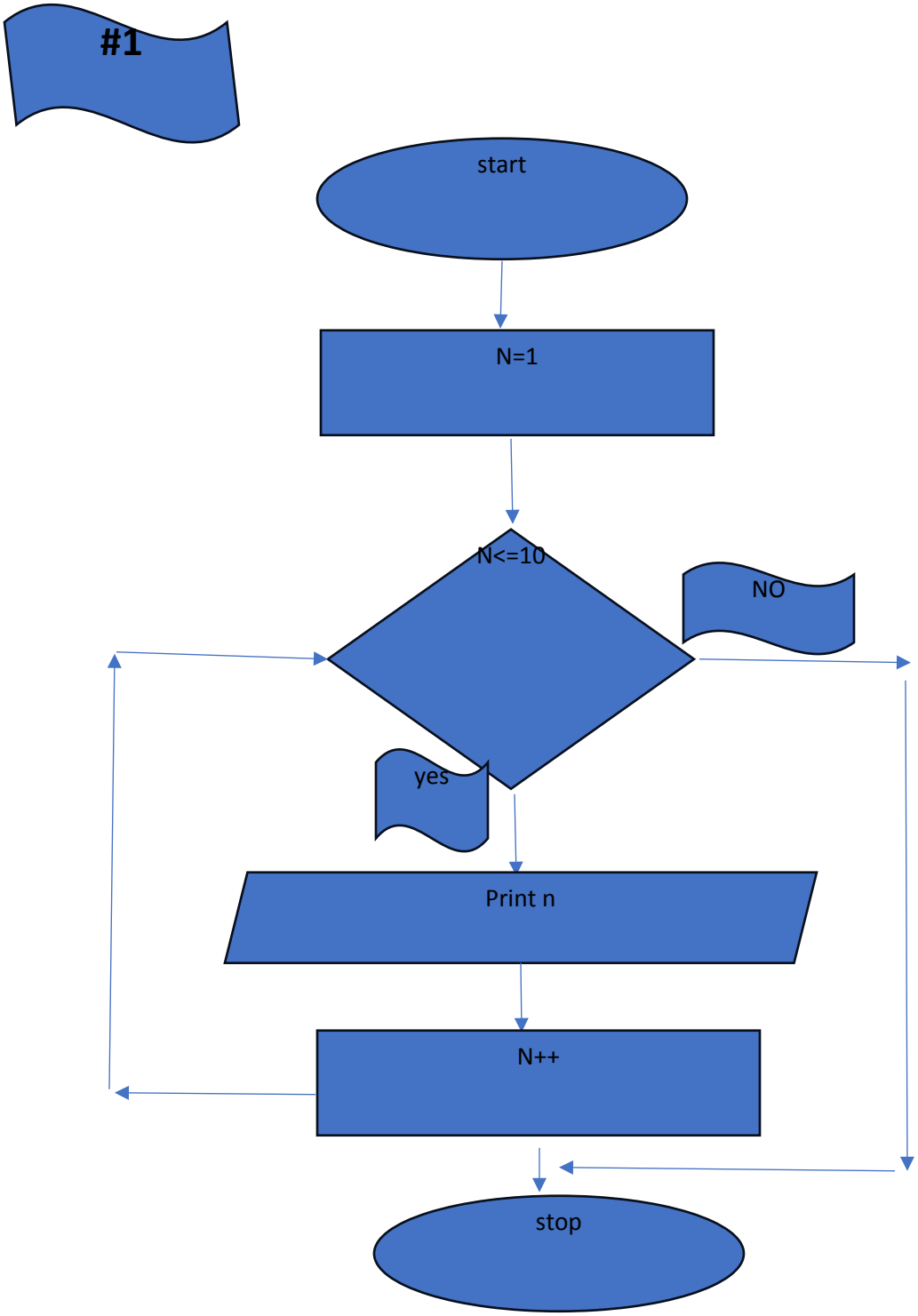
**7. Write pseudocode and flowchart for a program that displays the first five numbers with their squares**.

1. Start.
2. Declare n
3. N=1
4. While (n<=5)
5. Print n = n*n
6. n++
7. end while
8. Stop.

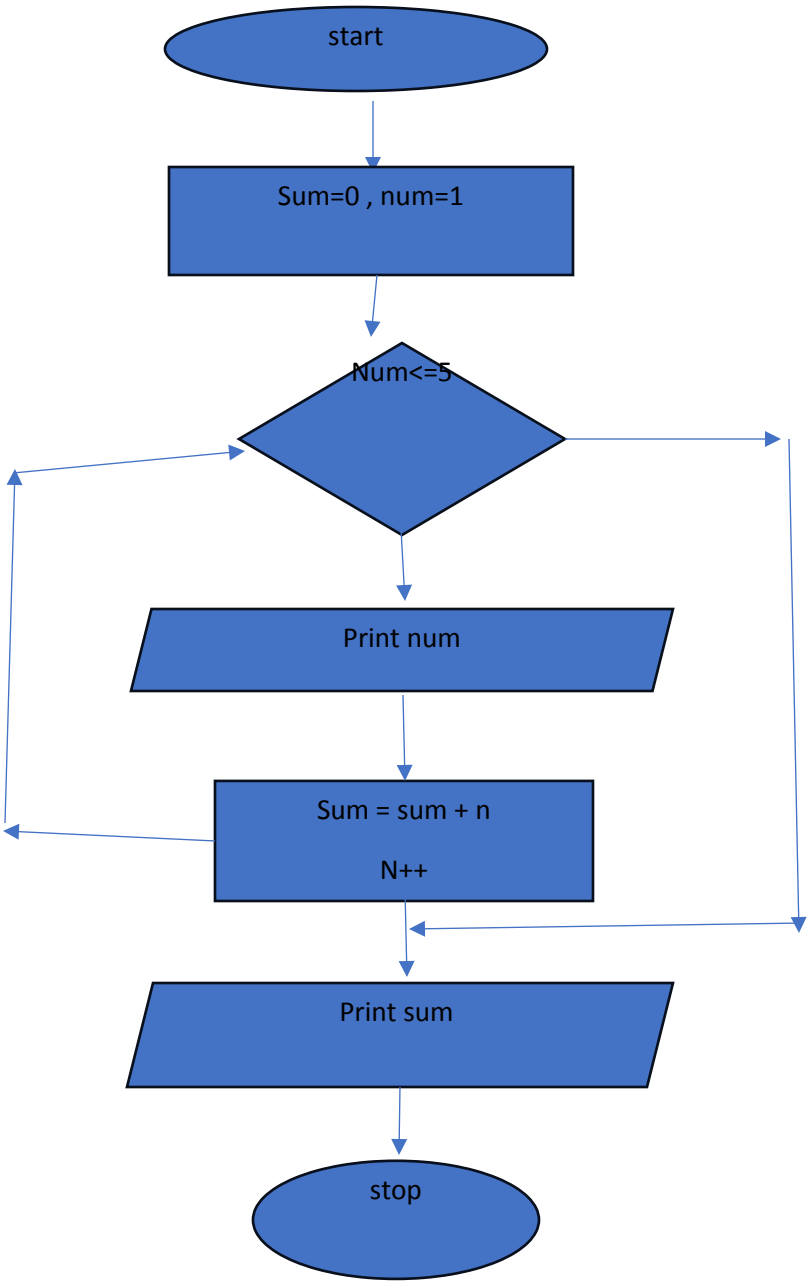
**8. Write pseudocode and flowchart for a program that inputs a number from the user and displays the factorial of that number.**

1. Start.
2. Declare n, fact =1.
3. Input n
4. While (n>0)
5. Fact = fact * n
6. n- -
7. End while.
8. Print fact.
9. Stop.

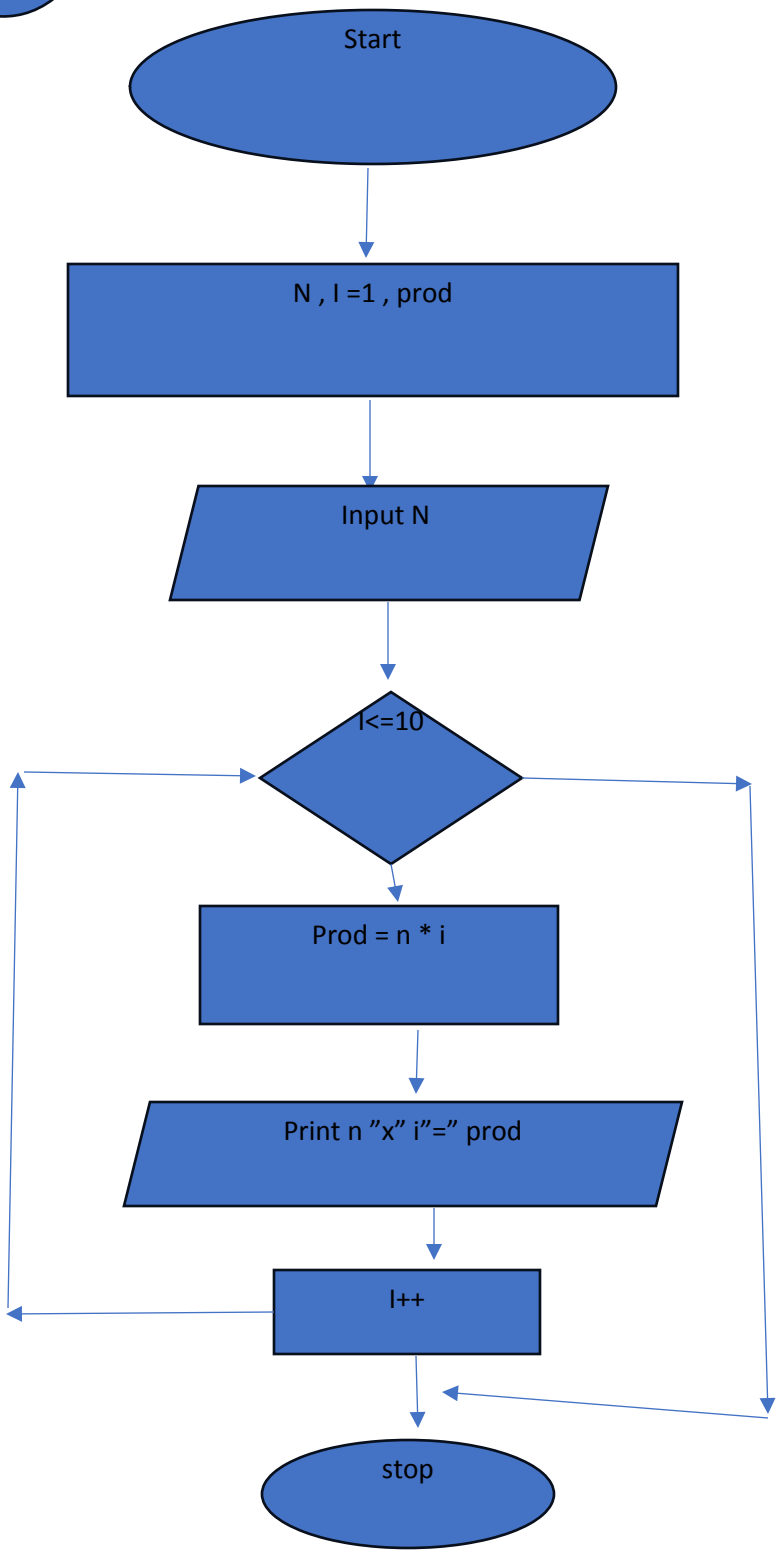
# FLOWCHARTS


#1
start
N=1
N<=10
NO
yes
Print n
N++
stop

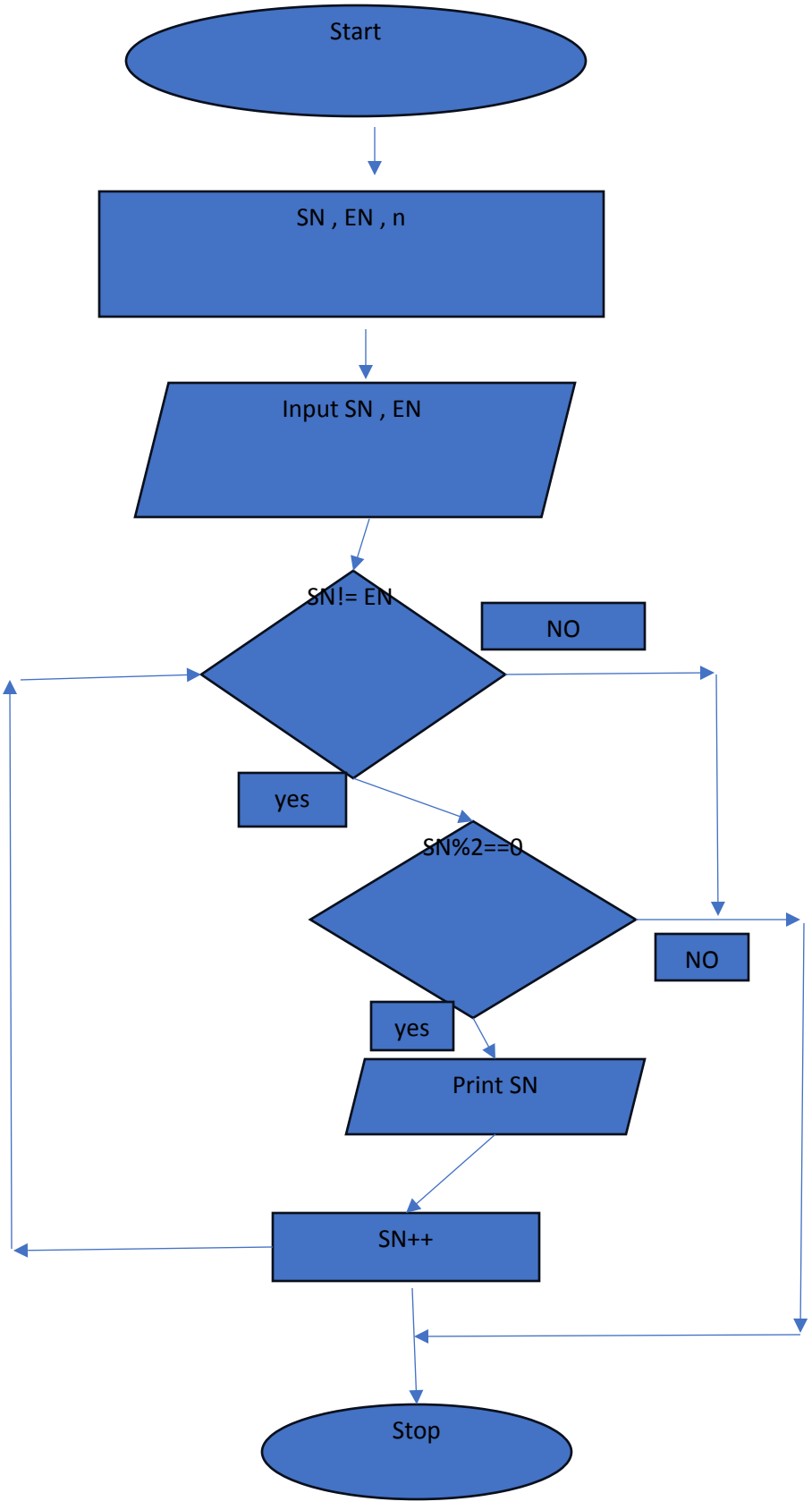
**#2**



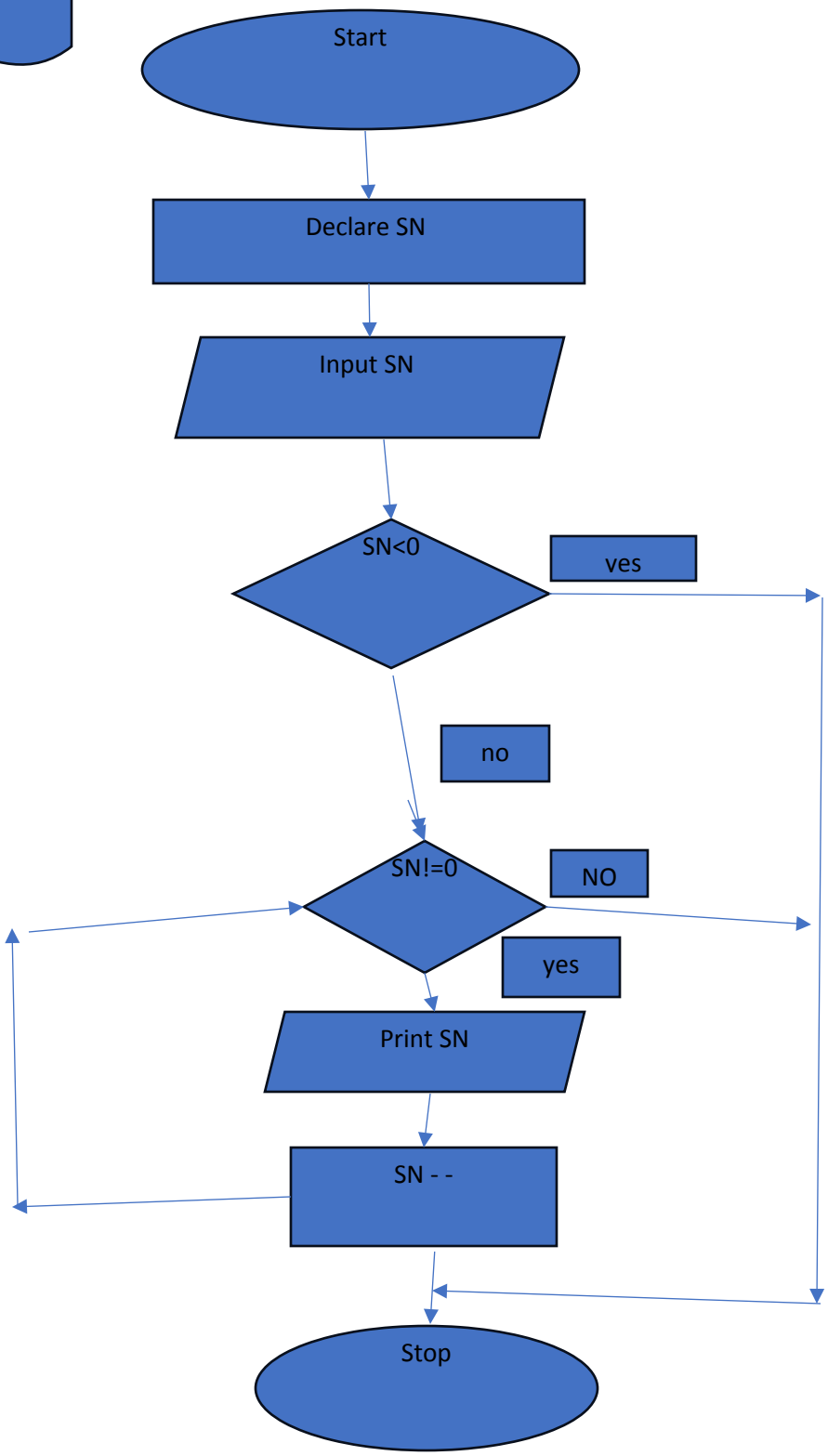
#3



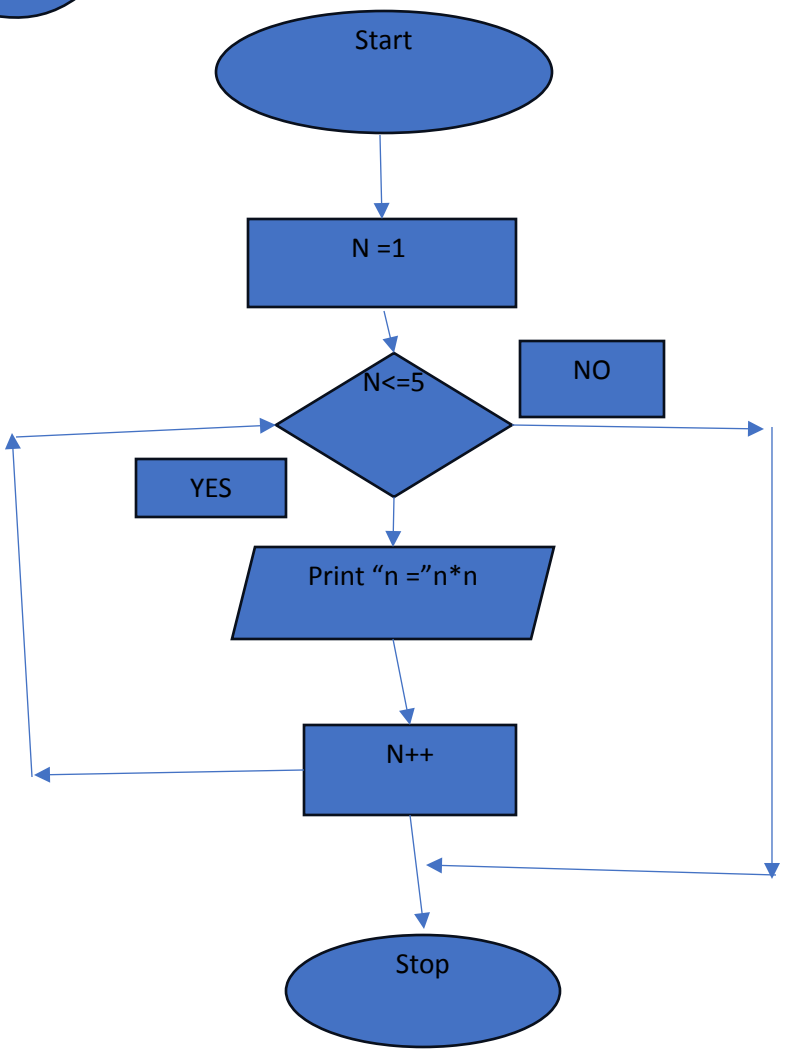
#4


Start
SN , EN , n
Input SN , EN
SN!= EN
NO
yes
SN%2==0
NO
yes
Print SN
SN++
Stop

#5


Start
Declare SN
Input SN
SN<0
yes
no
SN!=0
NO
yes
Print SN
SN - -
Stop

# #7



#8