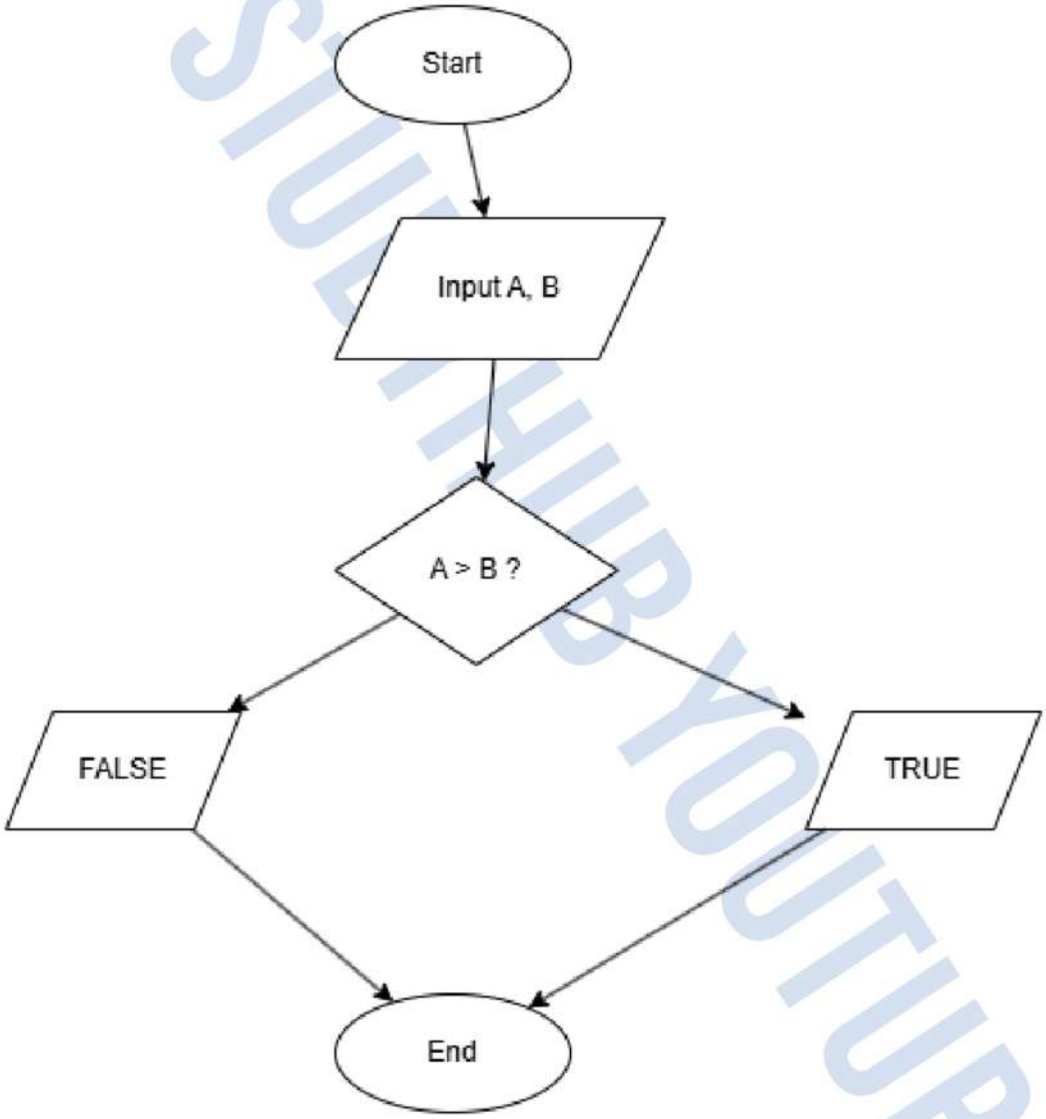
Lab Activity 1: Flowchart Creation

1. **Draw a Flowchart in MS Visio:**
   - **Draw a flowchart that takes the input of two numbers A and B and outputs TRUE if A is greater than B; otherwise, it should output FALSE.**



Activity 2: IPO Chart and Algorithm for the Given Problems

a) Find the Exponent of a Given Number

IPO Chart for Exponent Calculation

Input (I)	Process (P)	Output (O)
Number (Base) and Power (Exponent)	Multiply the base by itself as many times as the exponent	Result (Exponentiation Value)

Algorithm:

1. Input: Base number and exponent value.
2. Initialize result as 1.
3. Loop from 1 to exponent value:
    - Multiply result by the base.
4. Output the final result.

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b) Print Odd Numbers from 1 to 100

IPO Chart for Printing Odd Numbers

Input (I)	Process (P)	Output (O)
None	Loop from 1 to 100, check if number is odd	Print all odd numbers

Algorithm:

1. Loop from 1 to 100:
    - If the number is **odd** (number % 2 != 0), print it.

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c) Print the Sequence of Numbers in Descending Order

27 , 24 , 21 , 18 , 15 , 12 , 9 , 6 , 3 , 0 , 3 , 6

IPO Chart for Descending Sequence

Input (I)	Process (P)	Output (O)
None	Start from 27, keep subtracting in descending order	Print sequence: 27, 24, 21, 18, etc.

Algorithm:

1. Start from **27**.
2. Subtract **3** from the current number each time.
3. Print the number.
4. Stop when you reach or go below **0**.

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d) Find the Sum of Even Numbers up to 100

IPO Chart for Sum of Even Numbers

Input (I)	Process (P)	Output (O)
None	Loop through even numbers up to 100 and add them	Total sum of even numbers

Algorithm:

1. Initialize **sum = 0**.
2. Loop through numbers from **2** to **100**, increment by **2**.
3. Add the current number to the **sum**.
4. Print the final **sum**.

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e) Print a Multiplication Table of a Given Number

IPO Chart for Multiplication Table

Input (I)	Process (P)	Output (O)
Number to print table of	Loop from 1 to 10 and multiply each by given number	Print multiplication table

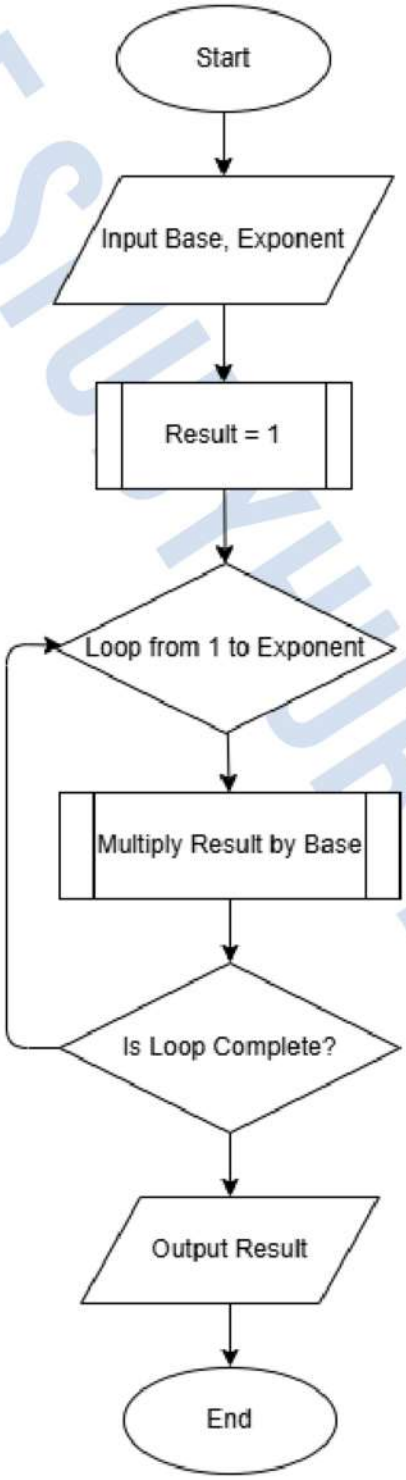
Algorithm:

1. Input: A number for which to generate the table.
2. Loop from **1** to **10**:
    - Multiply the input number by the loop variable.
    - Print the result.

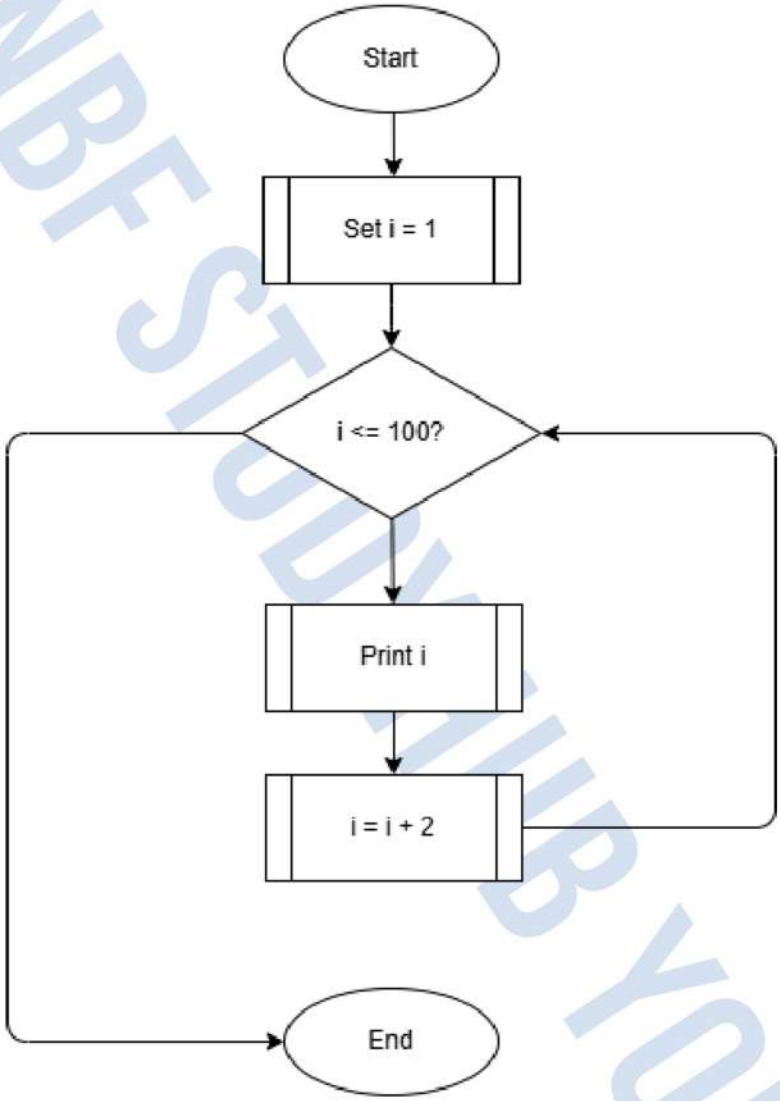
Lab Activity 3: Convert Algorithms to Flowcharts

Convert the algorithms of Lab Activity 2 given in Q2 to flowcharts.

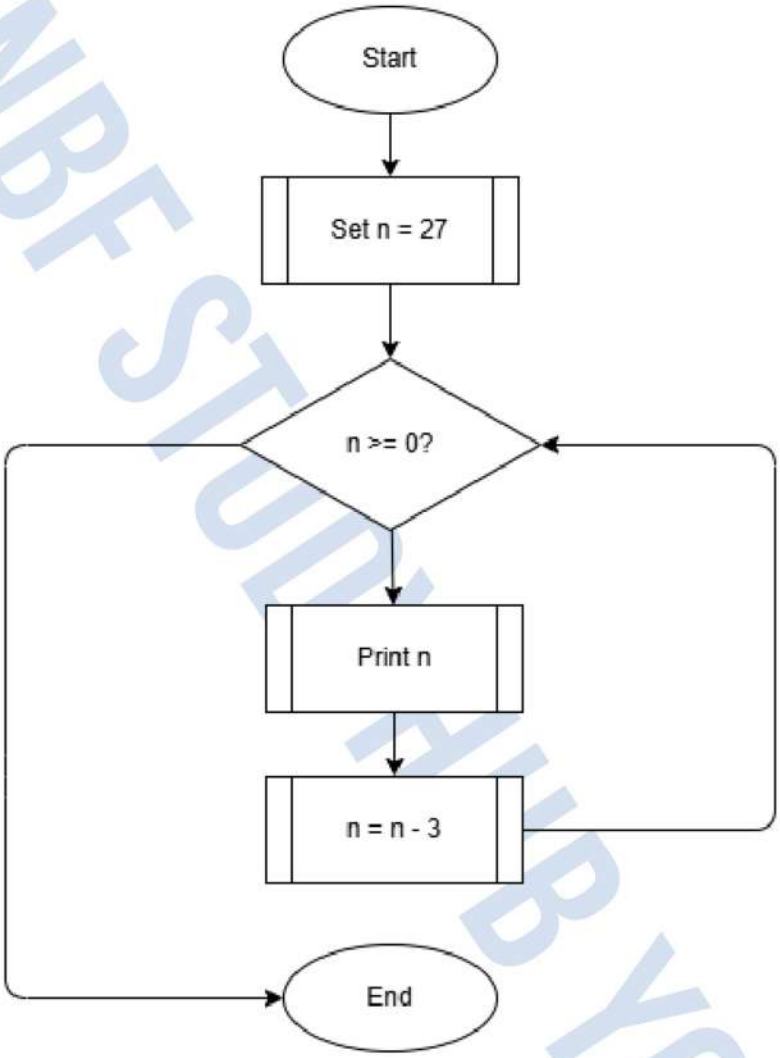
a) Find the Exponent of a Given Number



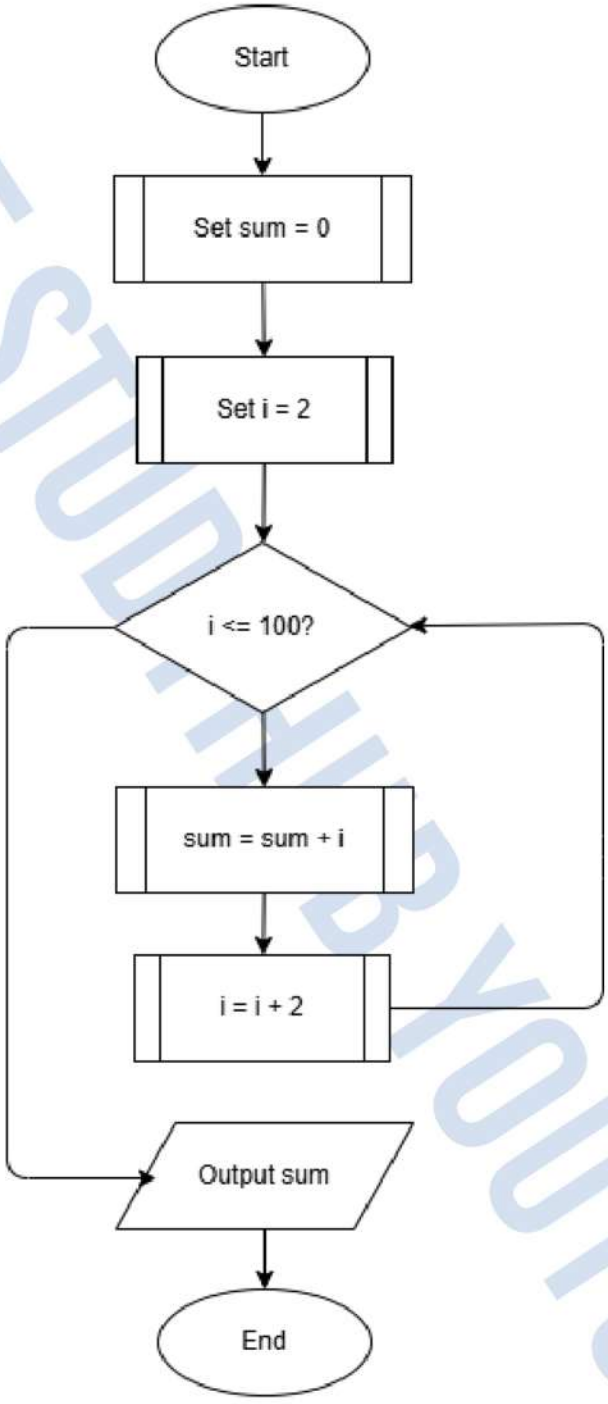
b) Print Odd Numbers from 1 to 100



c) Print the Sequence of Numbers in Descending Order (27, 24, 21, ...)



d) Find the Sum of Even Numbers up to 100



e) Print a Multiplication Table of a Given Number