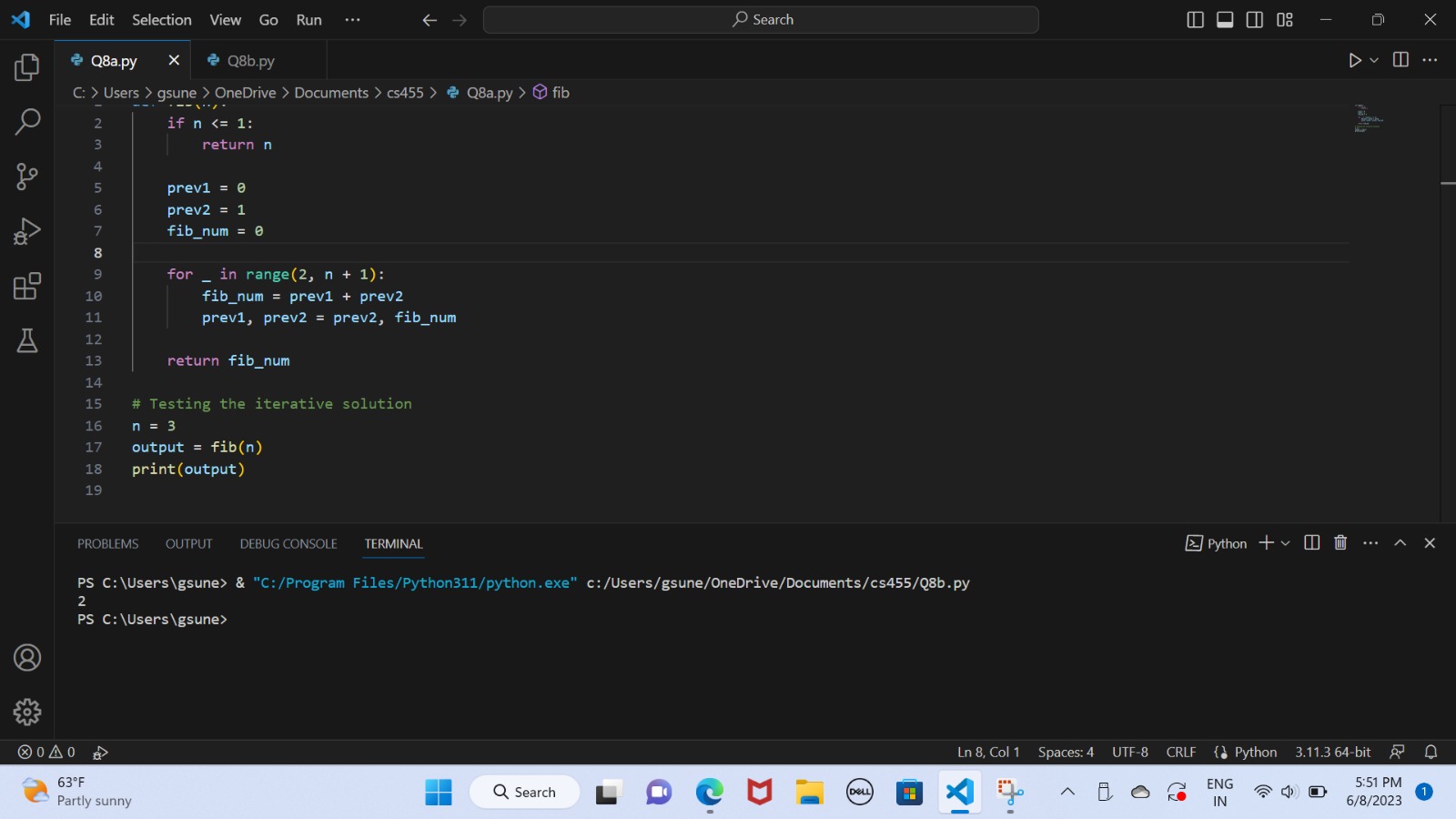
Week -3 Homework-1

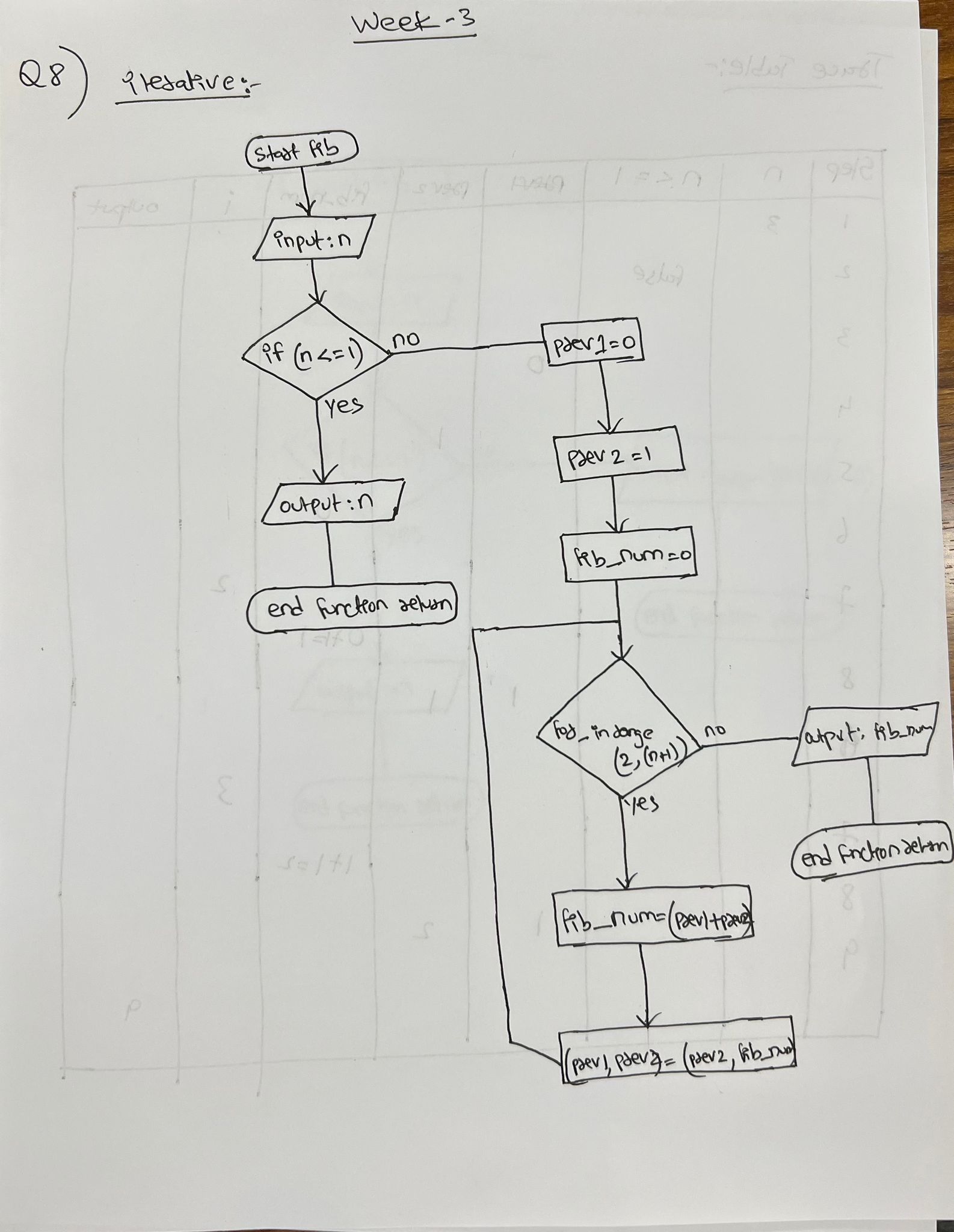
Name: Himavanth reddy putta Id:18759

Q8)

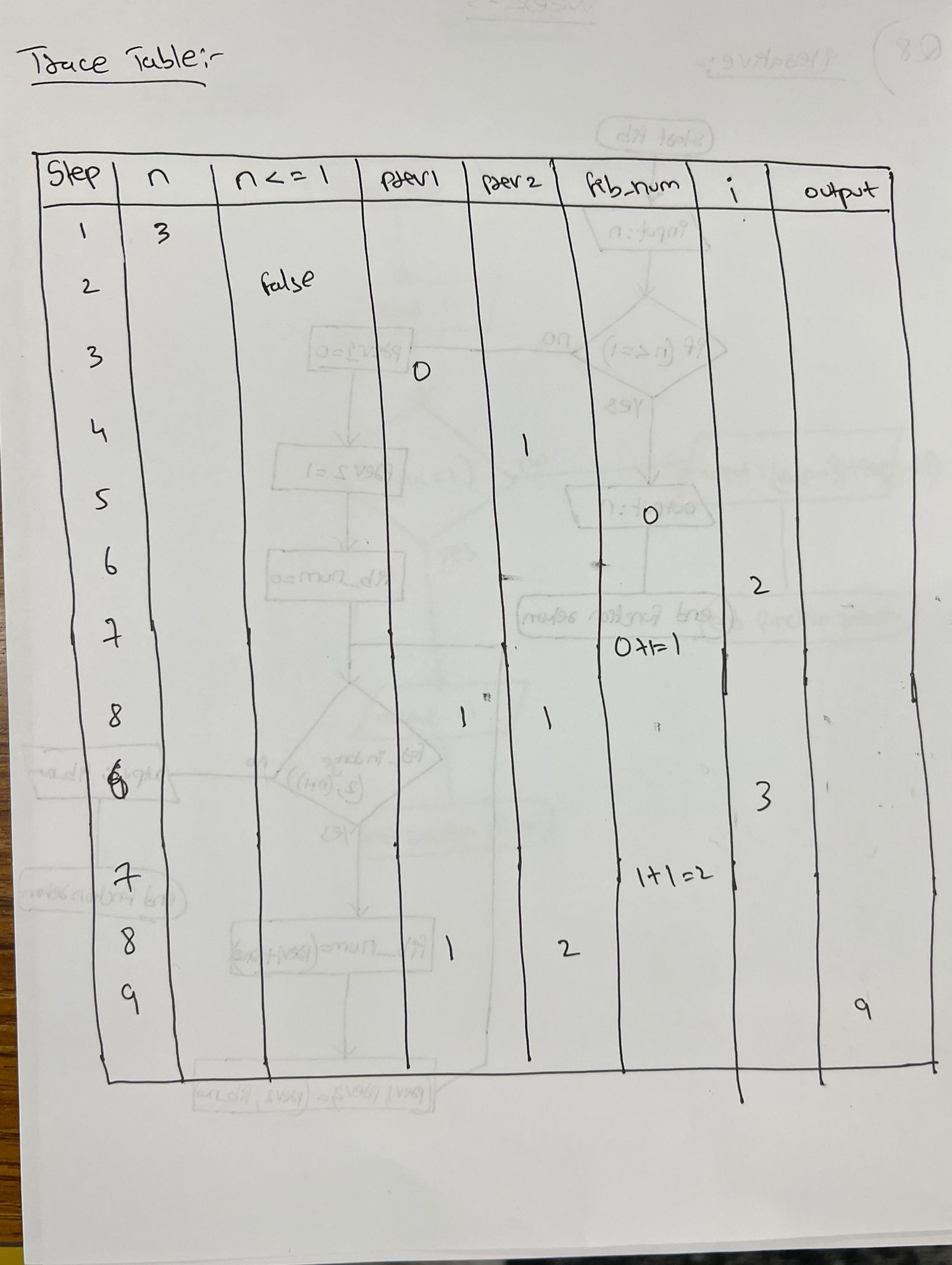
**Iterative:**



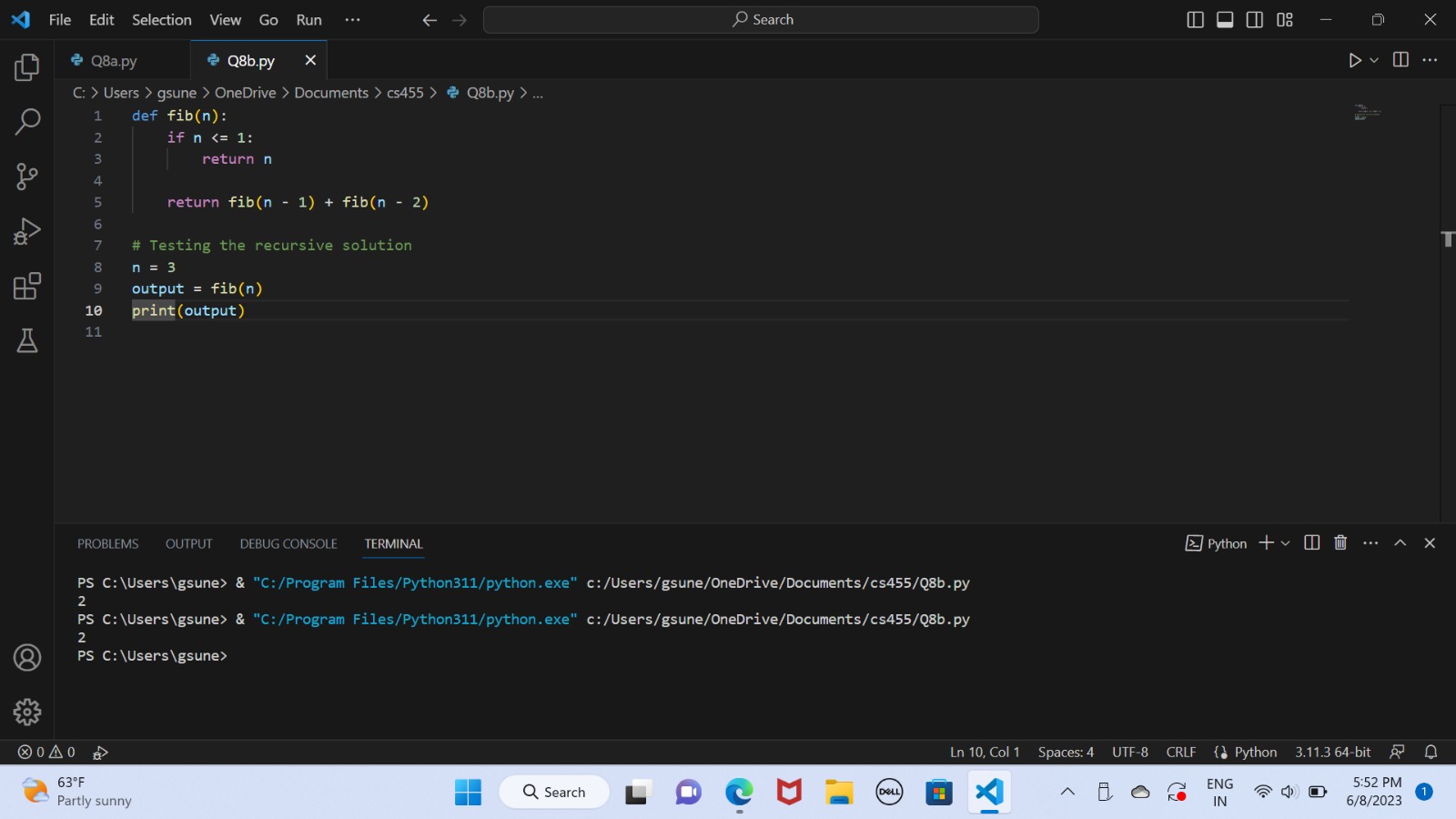
**Flowchart:**



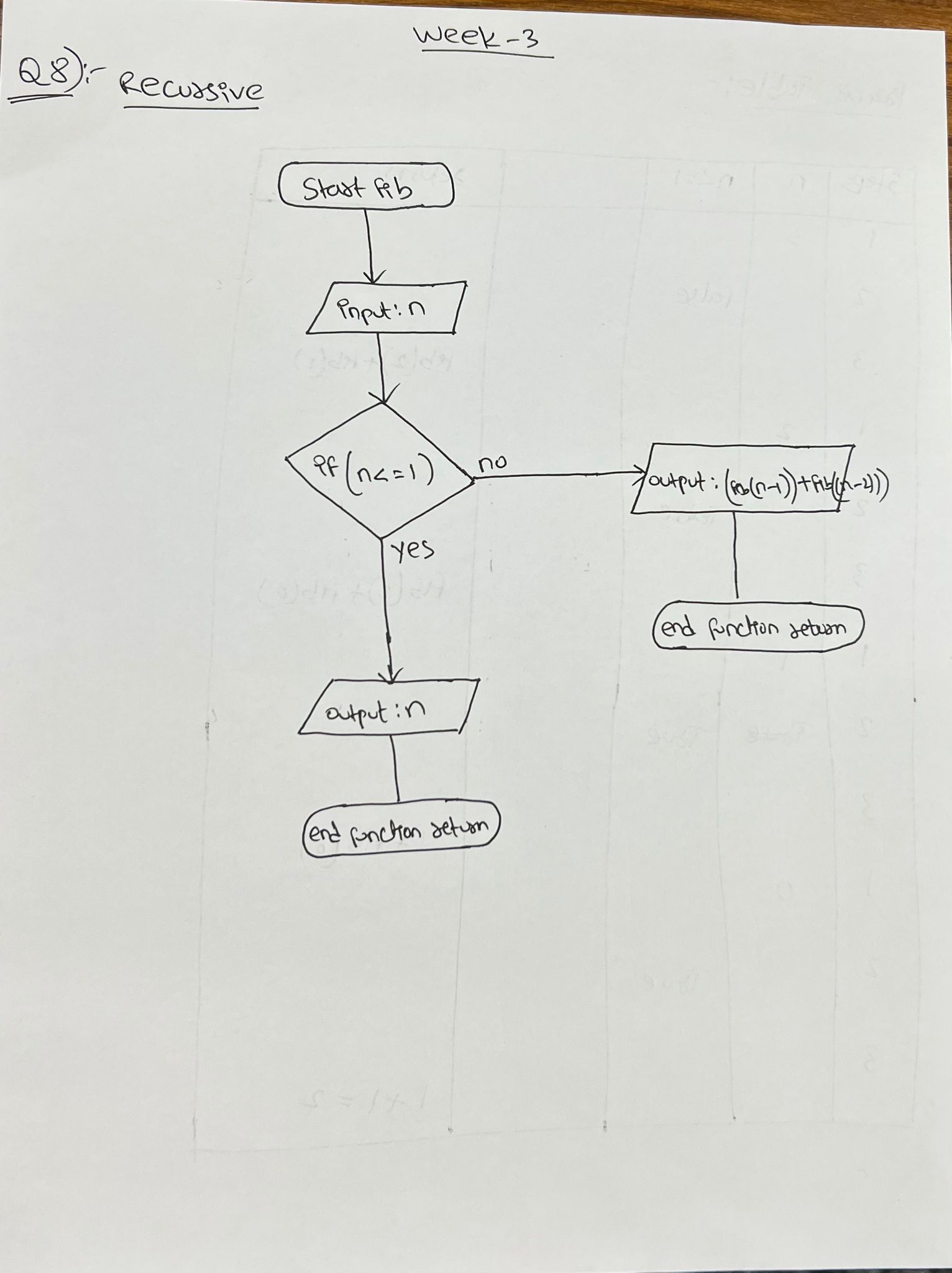
**Trace table:**



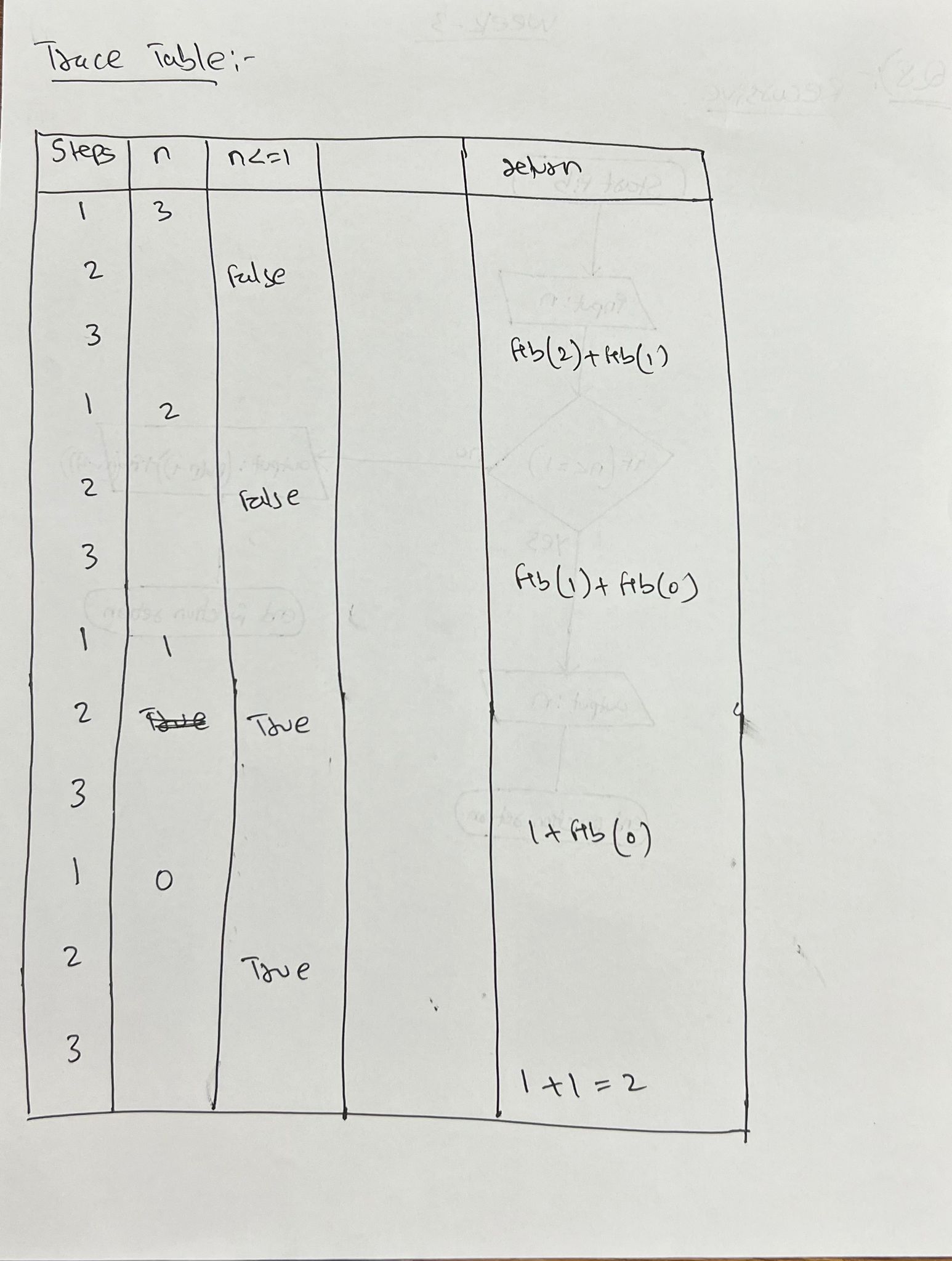
**Recursive:**



**Flowchart:**

****

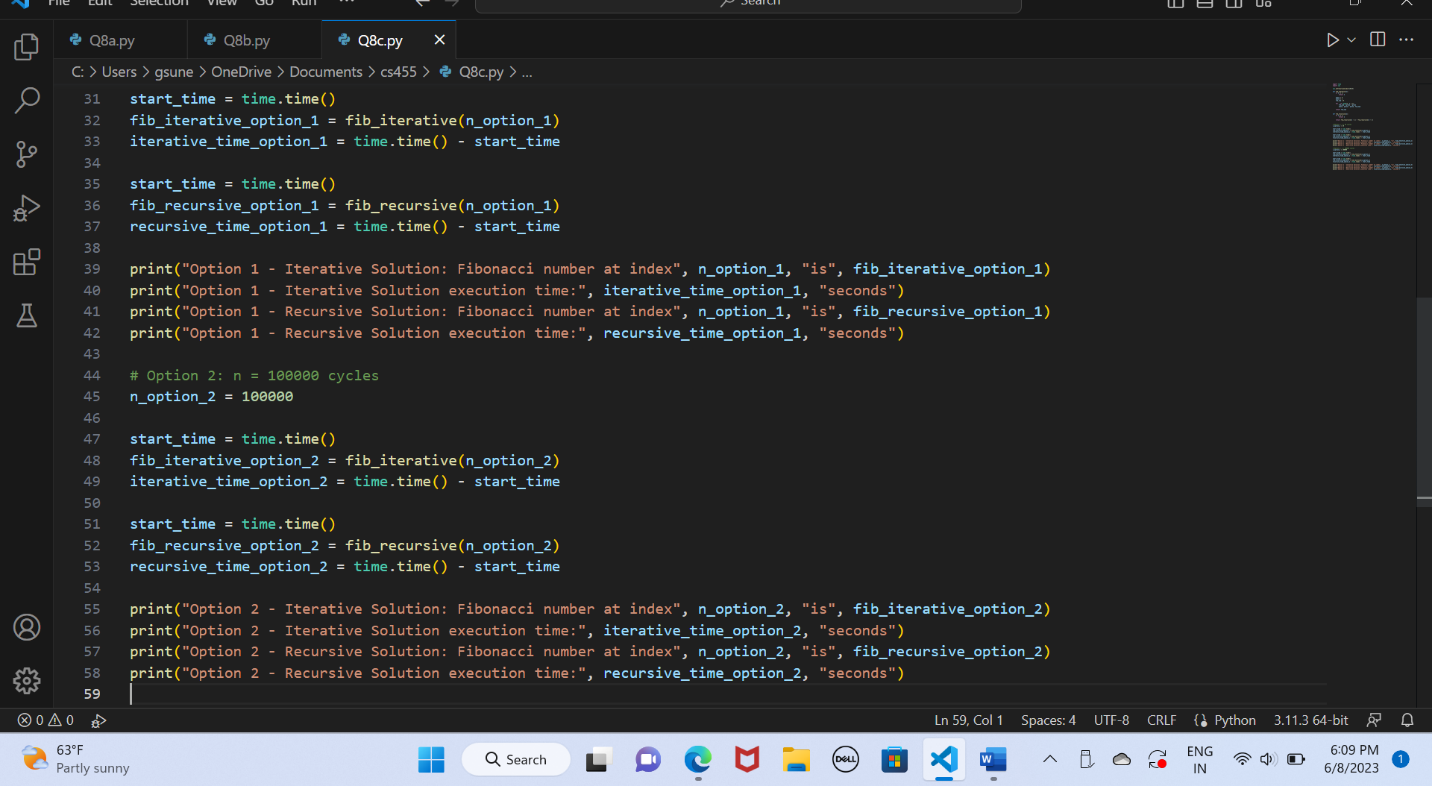
**Trace table:**

****

**Step 5 Code:**

A screenshot of a computer

Description automatically generated



**Output:**

**A screenshot of a computer screen

Description automatically generated with medium confidence**

|  |  |  |
| --- | --- | --- |
| **Option** | **Iterative** | **Recursive** |
| **n = 20 cycles** | The program's [execution time](https://hc.labnet.sfbu.edu/~henry/npu/classes/algorithm/tutorialpoints_dsa/slide/measure_time.html) is **0.0 secs** | The program's [execution time](https://hc.labnet.sfbu.edu/~henry/npu/classes/algorithm/tutorialpoints_dsa/slide/measure_time.html) is **0.0** |
| **n = 100000 cycles** | The program's [execution time](https://hc.labnet.sfbu.edu/~henry/npu/classes/algorithm/tutorialpoints_dsa/slide/measure_time.html) is **program crashed** | The program has segmentation fault after running 1000 cyccles |
| **Big-O** | **O(n)** | **O(2n)** |