Assignment 2:

1) Write the algorithm and draw the flowchart for the following.

i) print even numbers between 0 to 99.

step 1 : start
Step 2: declare variable i = 0
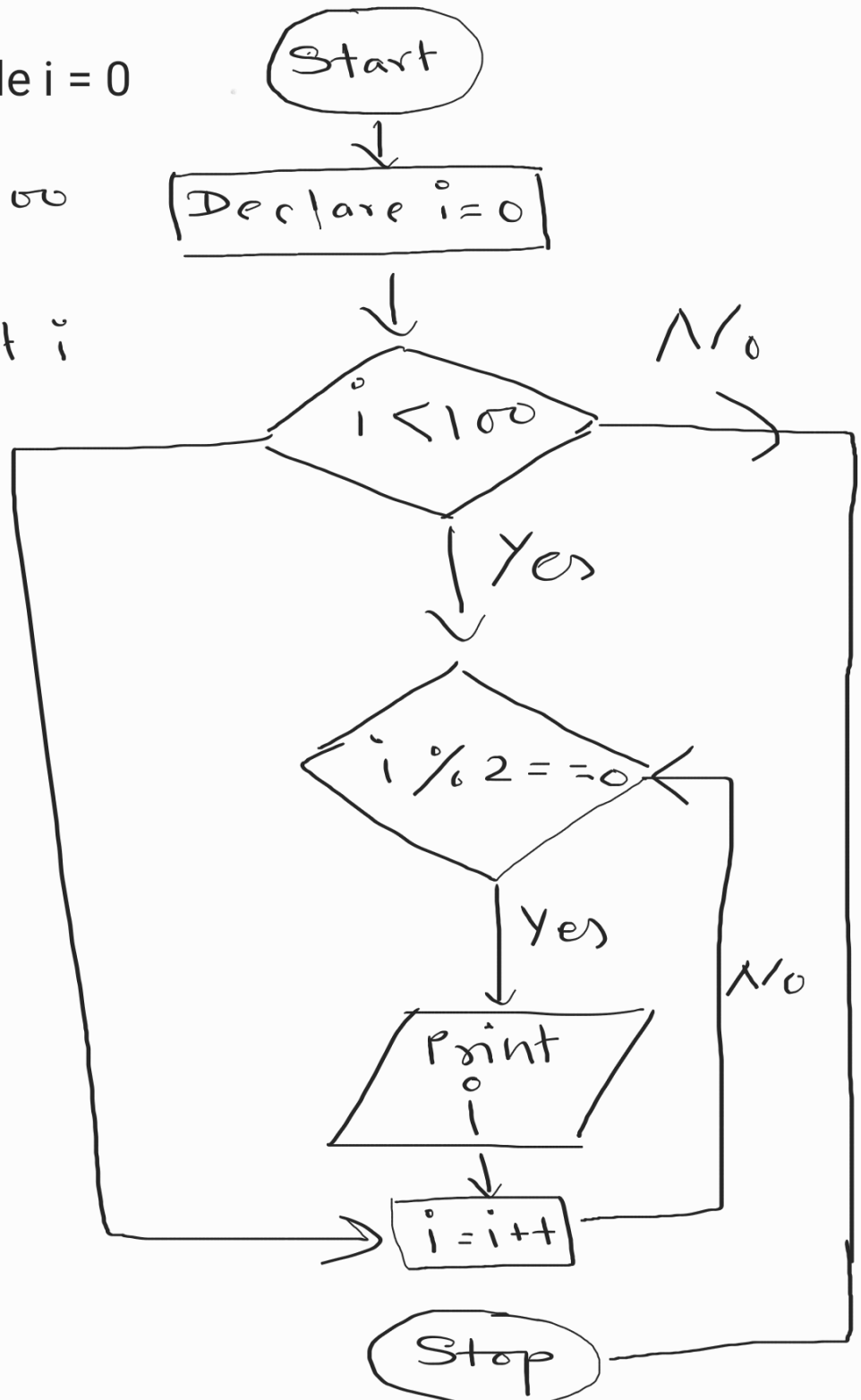Step 3: while i< 100
Step 4: if i % 2 ==100
Step 5: print i.
Step 6 : increment i
step 7 : Stop

Start

Declare i = 0

i < 100

No

Yes

i % 2 = =0

Yes

No

Print
i

i = i++

Stop

b) Print odd no,s less than a given number. It should also calculate their sum and count

=> Step 1 :- Start

Step 2 :- Declare num, sum, count

Step 3 :- Read num, number)

Step 4 : if i <= num, (go to Step 5

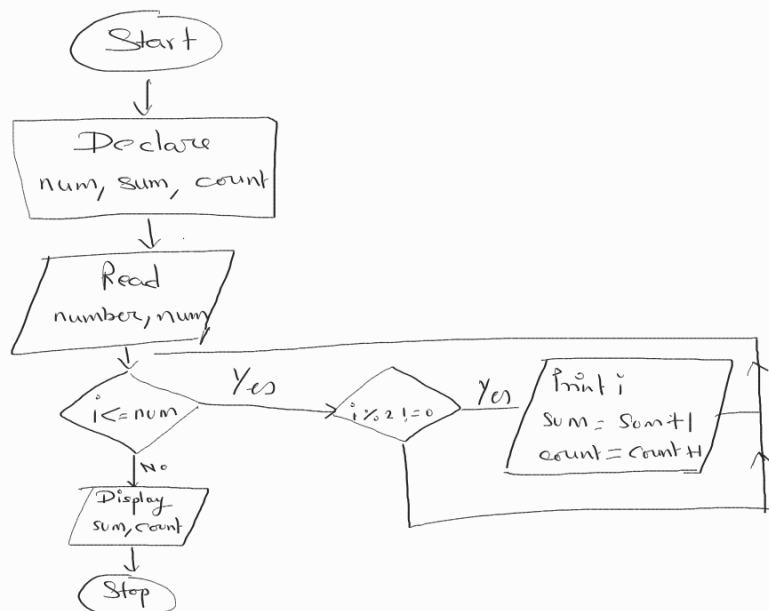Step 5 : if i % 2 != 0 (goto step 4)

Step 6 : Print i

Step 7 : Print sum = sum+1

Step 8 : Print count = count +1

Step 9 : Stop.

(c) Calculate the average of 25 test scores.

⟹

```
        ┌─────────┐
        │  Start  │
        └─────────┘
             │
             ▼
      ┌──────────────┐
      │   i = 1      │
      │   n = 25     │
      │   Sum = 0    │
      └──────────────┘
             │
             ▼
      ┌──────────────┐
      │    Input     │
      │   Score x    │
      └──────────────┘
             │
             ▼
      ┌──────────────┐
      │ Sum = Sum+x  │
      └──────────────┘
             │
             ▼
      ┌──────────────┐
      │  i = i + 1   │
      └──────────────┘
             │
             ▼
          ╱ i < n ╲ ──Yes──┐
    No    ╲        ╱        │
             │              ▼
             │      ┌──────────────┐
             │      │ Avg = Sum/N  │
             │      └──────────────┘
                           │
                           ▼
                    ┌──────────────┐
                    │    Print     │
                    │     Avg      │
                    └──────────────┘
                           │
                           ▼
                      ┌─────────┐
                      │  STOP   │
                      └─────────┘
```
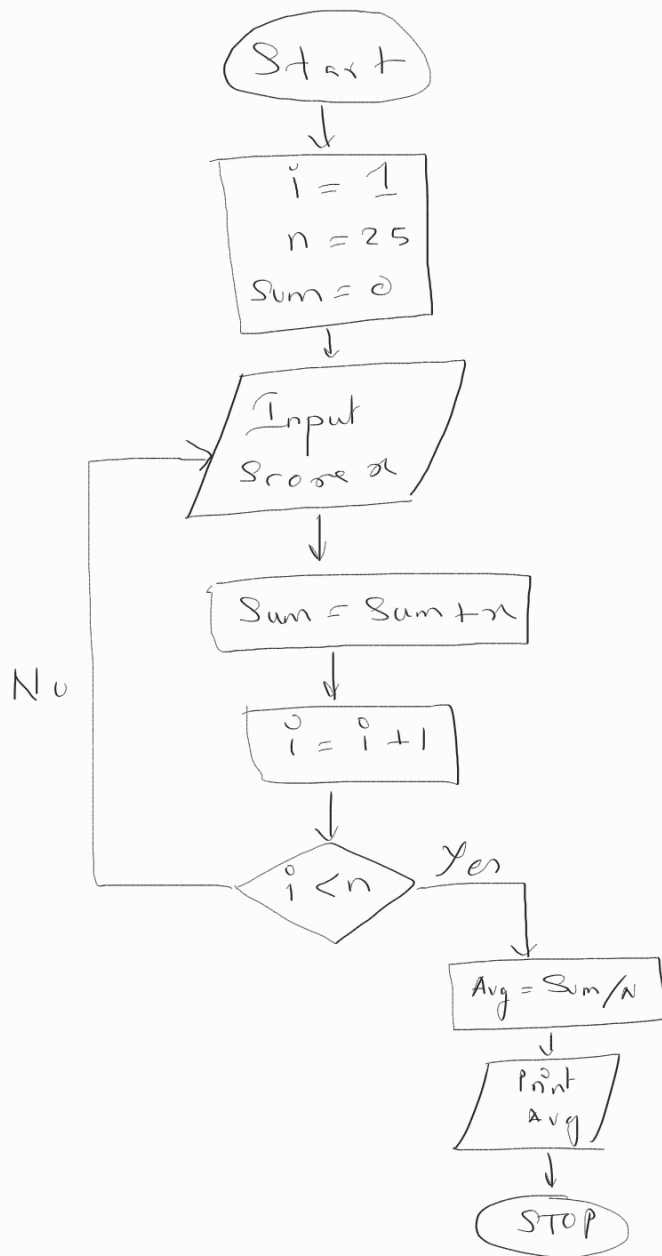
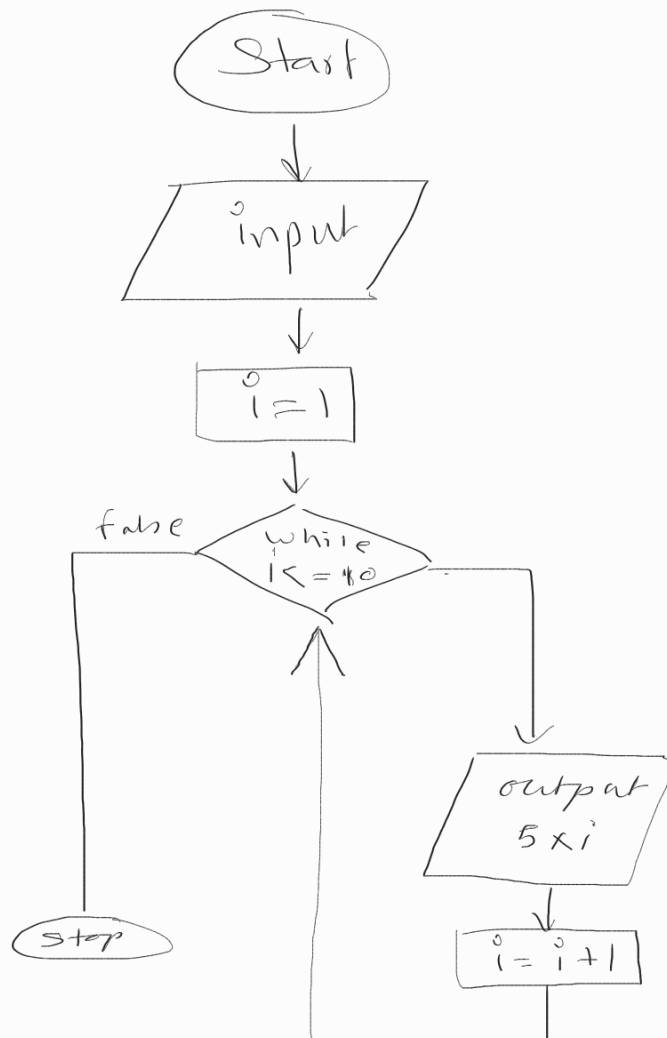(d) Print table of any number N (say 7)

→ Step 1 → Start

Step 2 → Input n

Step 3 → Declare i = 1

Step 4 → While i <= 10, go to step 7

Step 5 → Output n * i

Step 6 → i = i + 1 goto step 4

Step 7 → Stop

Start

input

i = 1

while i <= 10

false → stop

output 5 x i

i = i + 1

(१) Print odd numbers backward

Step 1: Start
Step 2: Declare i = 99
Step 3: if i%2 != 0 goto step 4
Step 4: Print i
Step 5: i = i-1
Step 6: Stop

```
         ( Start )
             |
             v
      +---------------+
      |    Declare    |
      |    i = 99     |
      +---------------+
             |
             v
           / is  \
          /  i>0   \------ No ------+
          \        /                |
           \      /                 |
             |                      |
             | Yes                  |
             v                      |
         / i%2!=0 \                 |
        /          \                |
        \          /                |
             |                      |
             v                      |
       / Print i /                  |
             |                      |
             v                      |
      +---------------+             |
      |   i = i-1     |             |
      +---------------+             |
             |                      |
             v                      |
          ( Stop ) <----------------+
```