

Practical 1

Name Of Practical

Aim: Solving the $3n+1$ problem.

Requirement:

- 1] C++ Compiler
- 2] Turbo C
- 3] Online judge

Theory:

The problem is $3n+1$ problem. Here computer takes an input from user and that is any positive integer. Here solution do mainly 2 operations on input according to the condition.

Suppose the input is n .

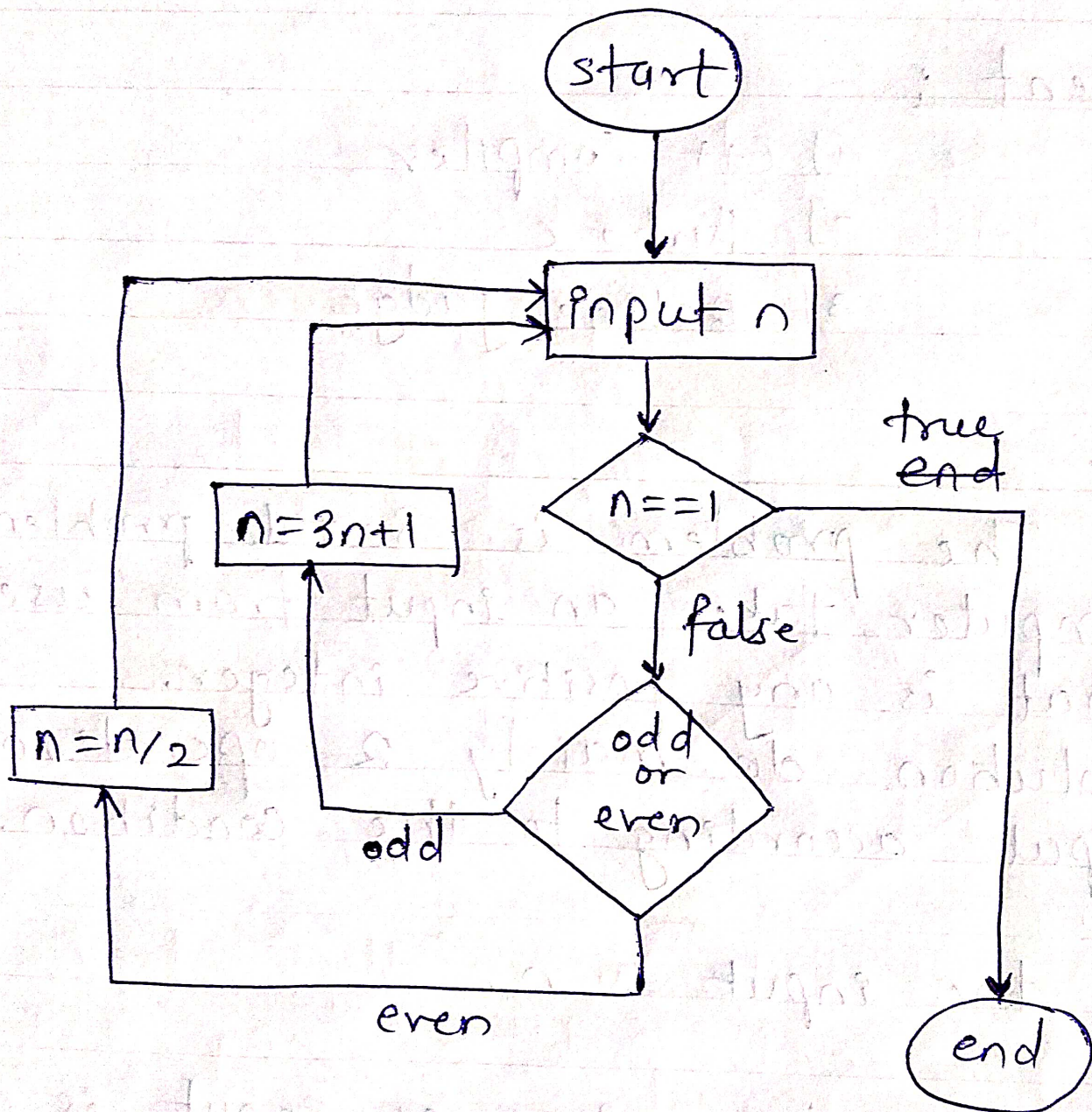
1] If the number given as input is odd then show the half of that input on output screen.

2] If the number is even then do $3n+1$ and show on screen.

Do above operation until the input turns into 1.

When it become 1 break the loop.

Flowchart:



Algorithm:

Start

take input

Until input $\neq 1$

if input is even

$$n = n/2 ;$$

if input is odd

$$n = 3n + 1 ;$$

end.

Conclusion : We successfully solved the $3n+1$ problem using C++.