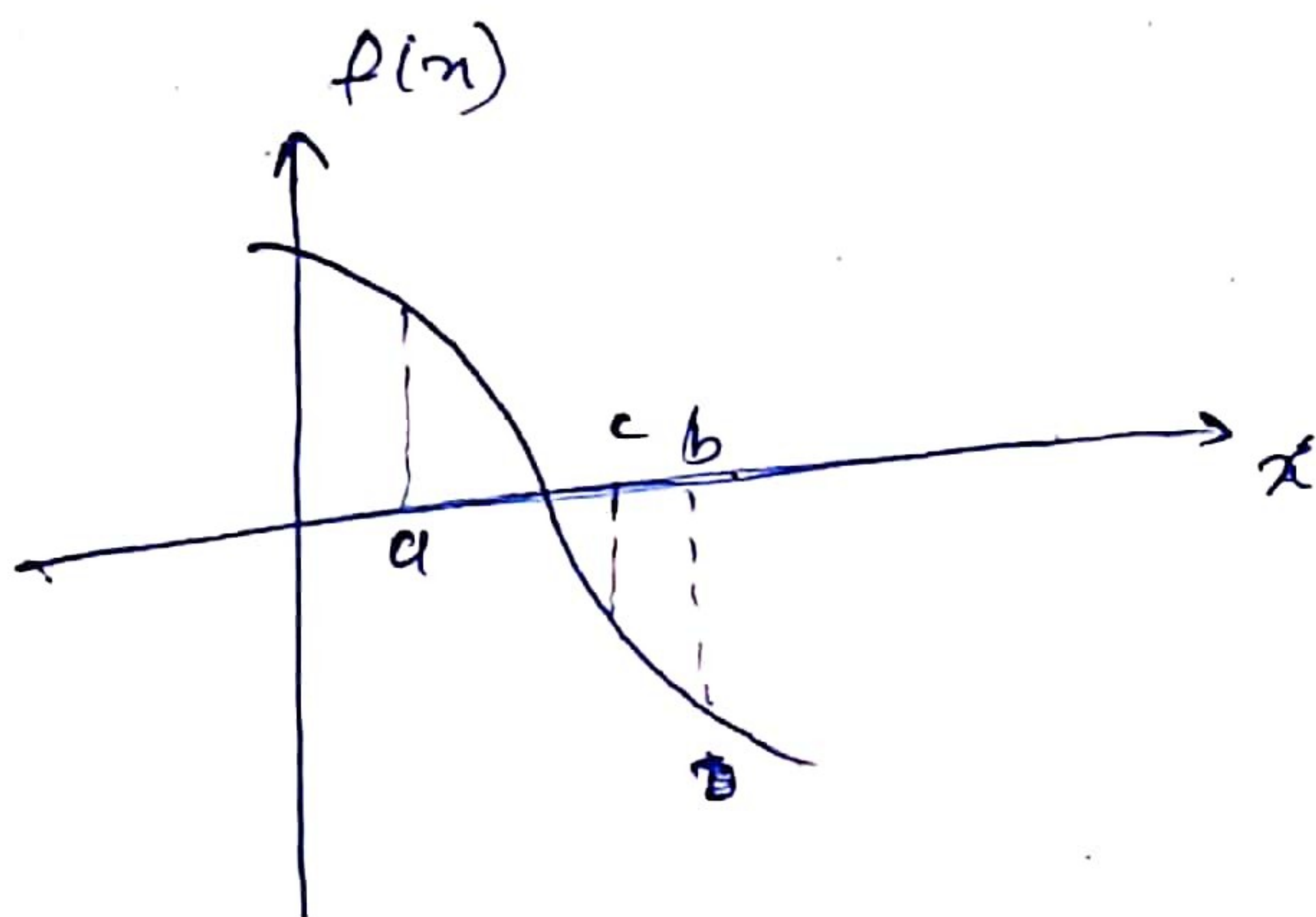Name : Aditya Nilesh Dhamne
Enrollment No. : 2020AMB033
Department :- Aerospace Engineering and Applied Mechanics.
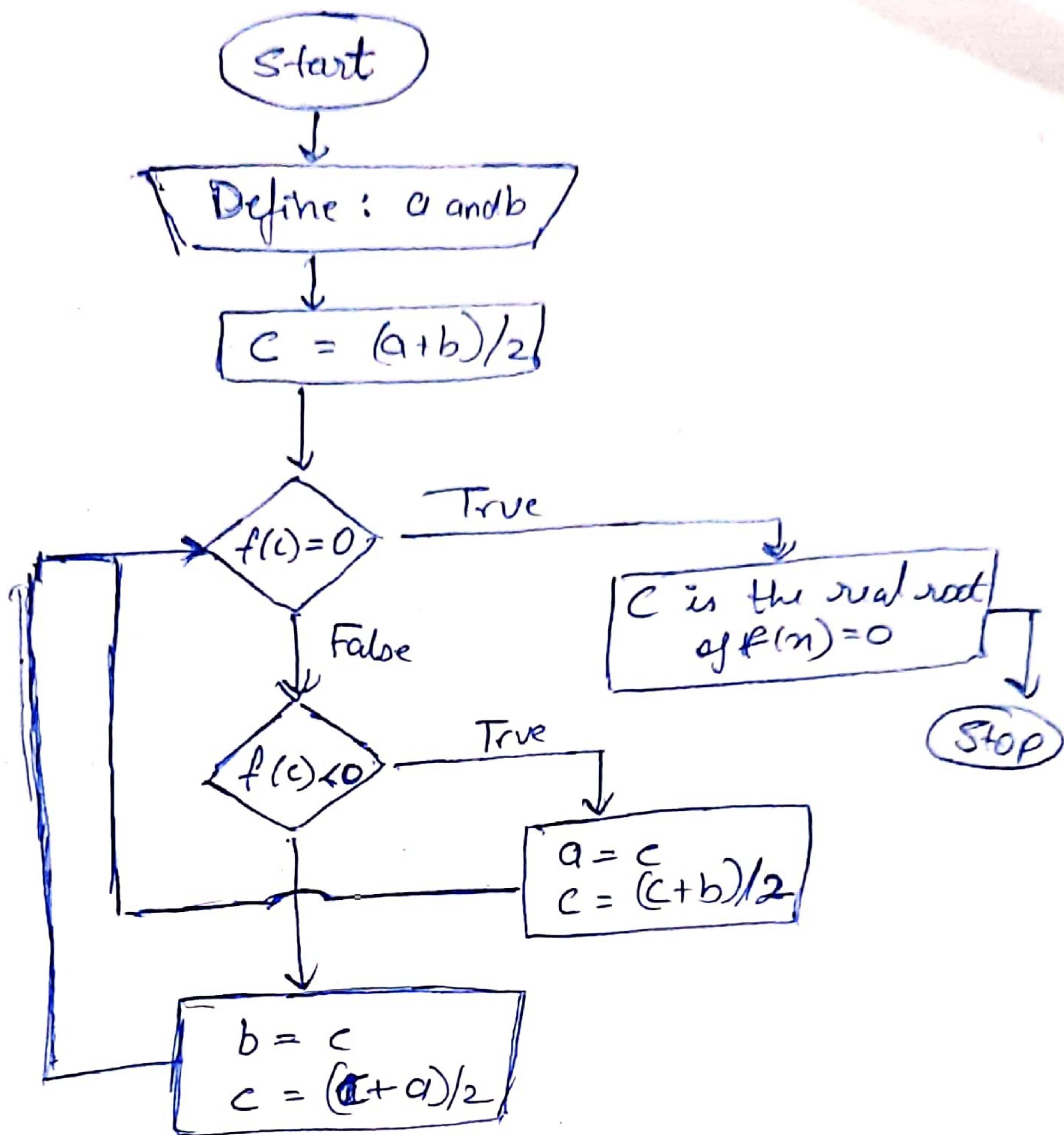
Algorithm

① $f(x)$ should be continuous for $x = a$ to $x = b$, such that $f(a) > 0$ and $f(b) < 0$.

② Interval halving : Midpoint $c = \dfrac{a+b}{2}$

③ If $f(c) = 0$ then c is one of the real roots of the function.

④ Else if $f(c) < 0$, then the root lies between a and c.

⑤ Else $f(c) > 0$, then the root lies between b and c

Arch

Flow chart

Start

Define : a and b

$c = (a+b)/2$

$f(c) = 0$ — True → c is the real root of $f(x) = 0$ → Stop

False

$f(c) < 0$ — True → $a = c$, $c = (c+b)/2$

$b = c$
$c = (a+c)/2$