Algorithm 2: Bisection method

Data: a, b, N, δ, ϵ
Result: Mid point of bracketing interval
$k = 0$;
while $k < N$ **do**
  $c = \frac{1}{2}(a + b)$;
  if $|f(c)| < \delta$ **then**
    Return c;
  end
  if $signf(c) \neq signf(b)$ **then**
    $a = c$;
  else
    $b = c$;
  end
  $k = k + 1$;
  if $b - a < \epsilon$ **then**
    Return $\frac{1}{2}(a + b)$;
  end
end