**Algorithm 1:** Bisection method

**Data:** $a$, $b$, $N$, $\delta$, $\epsilon$
**Result:** Mid point of bracketing interval
$a_0 = a$, $b_0 = b$, $k = 0$;
**while** $k < N$ **do**
  $c_k = \frac{1}{2}(a_k + b_k)$;
  **if** $|f(c_k)| < \delta$ **then**
    Return $c_k$;
  **end**
  **if** $signf(c_k) \neq signf(b_k)$ **then**
    $a_{k+1} = c_k$;
    $b_{k+1} = b_k$;
  **else**
    $a_{k+1} = a_k$;
    $b_{k+1} = c_k$;
  **end**
  $k = k + 1$;
  **if** $b_k - a_k < \epsilon$ **then**
    Return $\frac{1}{2}(a_k + b_k)$;
  **end**
**end**