```
Input: function f(x), function df(x), float initial_x, float tolerance,
       int max_n_iterations
Output: result table results

begin Newton
    if(f(x) or df(x) are not valid function)
        break;
    if(initial_x or tolerance or max_n_iterations are not valid number)
        break;
    if(tolerance < 0)
        break;
    if(iterations < 1)
        break;

    array results

    float previous_x <- initial_x
    float previous_f <- f(previous_x)
    float error <- MAXIMUM FLOAT VALUE
    int iterations_counter <- 0

    results[iterations_counter] <- [iterations_counter, previous_x,
                                    previous_f, "N/A"]

    float current_x, current_f, previous_df

    while ((error > tolerance) and (iterations_counter < max_n_iterations))
        iterations_counter <- iterations_counter + 1
        previous_df <- df(previous_x)

        if(previous_df == 0):
                break;

        current_x <- previous_x - (previous_f/previous_df)
        current_f <- f(current_x)
        error <- |current_x - previous_x|
        previous_x <- current_x
        previous_f <- current_f
        results[iterations_counter] <- [iterations_counter, previous_x,
                                        previous_f, error]
    end while

    return results
end Newton
```