```
secant <- function(df, x1, x2, tol) {

        df.x2 <- df(x2)

        repeat {

                df.x1 <- df(x1)

                new.x <- x1 - df.x1 * (x1 - x2) / (df.x1 - df.x2)

                if (abs(new.x - x1) < tol) {

                        return(new.x)

                }

                x2 <- x1

                df.x2 <- df.x1

                x1 <- new.x

        }

}
```