

# DB 13 response

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Code from <https://math.stackexchange.com/questions/925838/constructing-a-while-loop-in-r-for-newtons-method>

## Newton's Method 4.1 - 13

```
g <- function(x) {  
  x^2 - cos(x)  
}  
  
gPrime <- function(x) {  
  2*x + sin(x)  
}  
  
guess <- 1.4  
  
tolerance <- .001  
  
root <- function(g, gPrime, guess, tolerance) {  
  x = guess  
  while (abs(g(x)) > tolerance) {  
    x = x - g(x)/gPrime(x)  
  }  
  x  
}  
  
root(g, gPrime, guess, tolerance)
```

```
## [1] 0.8241477
```