```
Script started on Thu 27 Feb 2014 09:14:11 AM EST
cab35@englebart:~/Documents/cs214/labs/lab04$ cat lo▯▯g_table.cpp
/* log_table.cpp displays a table of logarithms.
 *
 * Input: start, stop and increment, three doubles.
 * PRE: start < stop && increment > 0.
 * Output: A table of logarithms from start to stop,
 *         with increment as the step value.
 * Begun by: Adams, for CS 214 at Calvin College.
 * Completed by:
 ******************************************************/

#include <iostream>    // cin, cout, <<, >>
#include <cassert>     // assert()
#include <cmath>       // log10()
using namespace std;

int main() {
  cout << "\nTo display a table of logarithms,"
       << "\n enter the start, stop and increment values: ";
  double start, stop, increment;
  cin >> start >> stop >> increment;

  assert(increment > 0);

  for ( double i = start; i <= stop; i += increment )
    cout << "\nThe logarithm of " << i << " is\t " << log10(i) << flush;
  cout << endl;
}

cab35@englebart:~/Documents/cs214/labs/lab04$ g++ -Q▯▯▯[KWall lo▯g_table.cpp -o cpp_log_table
cab35@englebart:~/Documents/cs214/labs/lab04$ ./lo▯▯▯▯[K▯▯▯[Kcpp_log_table

To display a table of logarithms,
 enter the start, stop and increment values: 1 10 0.5

The logarithm of 1 is    0
The logarithm of 1.5 is  0.176091
The logarithm of 2 is    0.30103
The logarithm of 2.5 is  0.39794
The logarithm of 3 is    0.477121
The logarithm of 3.5 is  0.544068
The logarithm of 4 is    0.60206
The logarithm of 4.5 is  0.653213
The logarithm of 5 is    0.69897
The logarithm of 5.5 is  0.740363
The logarithm of 6 is    0.778151
The logarithm of 6.5 is  0.812913
The logarithm of 7 is    0.845098
The logarithm of 7.5 is  0.875061
The logarithm of 8 is    0.90309
The logarithm of 8.5 is  0.929419
The logarithm of 9 is    0.954243
The logarithm of 9.5 is  0.977724
The logarithm of 10 is   1
cab35@englebart:~/Documents/cs214/labs/lab04$ exit

Script done on Thu 27 Feb 2014 09:14:43 AM EST
Script started on Thu 27 Feb 2014 09:46:13 AM EST
cab35@englebart:~/Documents/cs214/labs/lab04$ cat lo▯▯g_table.adb
-- log_table.adb computes a table of logarithms.
--
-- Input: start, stop, increment, three reals.
-- Precondition: increment is positive.
-- Output: A table of logarithms beginning with log(start),
--         ending with log(stop), with intervals of increment.
--
```

```
-- Begun by: Dr. Adams, for CS 214 at Calvin College.
-- Completed by:
------------------------------------------------------------

with Ada.Text_IO, Ada.Float_Text_IO;
use  Ada.Text_IO, Ada.Float_Text_IO;
with Ada.Numerics.Elementary_functions;
use  Ada.Numerics.Elementary_functions;

procedure log_table is

   Start, Stop, Increment : Float;

begin                                          -- Prompt for input
   Put_Line("To print a table of logarithms,");
   Put(" enter the start, stop, and increment values: ");
   Get(Start); Get(Stop); Get(Increment);

  loop
    Put("The logarithm of ");
    Put(Start);
    Put(" is ");
    Put(log(Start, 10.0));
    New_line;
    Start := Start + Increment;
    exit when ( Start > Stop);
  end loop;

end log_table;

cab35@englebart:~/Documents/cs214/labs/lab04$ gnatmake lo▒▒g_table.adb
gcc-4.6 -c log_table.adb
gnatbind -x log_table.ali
gnatlink log_table.ali
cab35@englebart:~/Documents/cs214/labs/lab04$ ./log_table
To print a table of logarithms,
 enter the start, stop, and increment values: 1 10 0.5
The logarithm of  1.00000E+00 is  0.00000E+00
The logarithm of  1.50000E+00 is  1.76091E-01
The logarithm of  2.00000E+00 is  3.01030E-01
The logarithm of  2.50000E+00 is  3.97940E-01
The logarithm of  3.00000E+00 is  4.77121E-01
The logarithm of  3.50000E+00 is  5.44068E-01
The logarithm of  4.00000E+00 is  6.02060E-01
The logarithm of  4.50000E+00 is  6.53212E-01
The logarithm of  5.00000E+00 is  6.98970E-01
The logarithm of  5.50000E+00 is  7.40363E-01
The logarithm of  6.00000E+00 is  7.78151E-01
The logarithm of  6.50000E+00 is  8.12913E-01
The logarithm of  7.00000E+00 is  8.45098E-01
The logarithm of  7.50000E+00 is  8.75061E-01
The logarithm of  8.00000E+00 is  9.03090E-01
The logarithm of  8.50000E+00 is  9.29419E-01
The logarithm of  9.00000E+00 is  9.54243E-01
The logarithm of  9.50000E+00 is  9.77724E-01
The logarithm of  1.00000E+01 is  1.00000E+00
cab35@englebart:~/Documents/cs214/labs/lab04$ exit

Script done on Thu 27 Feb 2014 09:46:35 AM EST
;;; log_table.el displays a table of logarithms.
;;;
;;; Input: start, stop and increment, three reals.
;;; PRE: start < stop and increment > 0.
;;; Output: A table of logarithms from start to stop,
;;;          with interval of increment.
;;;
;;; Begun by: Adams, for CS 214 at Calvin College.
```

```
;;; Completed by: Charles Blum
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;


;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
;;; displayLogTable() recursively generates the actual table of logs. ;;;
;;; Receive: start and stop, the limit values for the table;          ;;;
;;;              increment, the step value for the table;              ;;;
;;;              buf, the buffer in which to display the table.        ;;;
;;; Output: The table of logs from start to stop, by increment.       ;;;
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
(defun displayLogTable (start stop increment buf)
  (if (<= start stop)
      (progn (princ "The Logarithm of " buf)
             (princ start buf)
             (princ " is " buf)
             (princ (log10 start) buf)
             (terpri buf)
             (displayLogTable (+ start increment) stop increment buf)
      )
  )
)

;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
;;; main is a 'driver' for displayLogTable()                    ;;;
;;; Input: start, stop and increment.                           ;;;
;;; Output: The table of logs from start to stop by increment  ;;;
;;;          in a buffer named 'logTable.out'.                  ;;;
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
(defun main (start stop increment)
  "print a table of logarithms"
   (interactive "nEnter starting value: \nnEnter stopping value: \nnEnter increment value: ")
   (if (get-buffer "log_table.out")
       (kill-buffer "log_table.out"))
   (setq buf (switch-to-buffer-other-window "log_table.out"))
   (displayLogTable start stop increment buf))









;; This buffer is for notes you don't want to save, and for Lisp evaluation.
;; If you want to create a file, visit that file with C-x C-f,
;; then enter the text in that file's own buffer.

(load "~/Documents/cs214/labs/lab04/log_table.el")
t
(main 1 10 0.5)

nil
The Logarithm of 1 is 0.0
The Logarithm of 1.5 is 0.17609125905568124
The Logarithm of 2.0 is 0.3010299956639812
The Logarithm of 2.5 is 0.3979400086720376
The Logarithm of 3.0 is 0.47712125471966244
The Logarithm of 3.5 is 0.5440680443502757
The Logarithm of 4.0 is 0.6020599913279624
The Logarithm of 4.5 is 0.6532125137753437
The Logarithm of 5.0 is 0.6989700043360189
The Logarithm of 5.5 is 0.7403626894942439
The Logarithm of 6.0 is 0.7781512503836436
The Logarithm of 6.5 is 0.8129133566428556
```

```
The Logarithm of 7.0 is 0.8450980400142568
The Logarithm of 7.5 is 0.8750612633917001
The Logarithm of 8.0 is 0.9030899869919435
The Logarithm of 8.5 is 0.9294189257142927
The Logarithm of 9.0 is 0.9542425094393249
The Logarithm of 9.5 is 0.9777236052888477
The Logarithm of 10.0 is 1.0
The Logarithm of 1 is 0.0
The Logarithm of 1.5 is 0.17609125905568124
The Logarithm of 2.0 is 0.3010299956639812
The Logarithm of 2.5 is 0.3979400086720376
The Logarithm of 3.0 is 0.47712125471966244
The Logarithm of 3.5 is 0.5440680443502757
The Logarithm of 4.0 is 0.6020599913279624
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The Logarithm of 5.0 is 0.6989700043360189
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The Logarithm of 6.0 is 0.7781512503836436
The Logarithm of 6.5 is 0.8129133566428556
The Logarithm of 7.0 is 0.8450980400142568
The Logarithm of 7.5 is 0.8750612633917001
The Logarithm of 8.0 is 0.9030899869919435
The Logarithm of 8.5 is 0.9294189257142927
The Logarithm of 9.0 is 0.9542425094393249
The Logarithm of 9.5 is 0.9777236052888477
The Logarithm of 10.0 is 1.0
Script started on Fri 28 Feb 2014 09:41:35 AM EST
cab35@englebart:~/Documents/cs214/labs/lab04$ cat lo␇g_table.rb
#! /usr/bin/ruby
# log_table.rb displays a table of logarithms
#
# Begun by: Dr. Nelesen, for CS 214 at Calvin College.
# Completed by:
#
# Input:  The start, stop and increment values
# Precondition: The start value is less than the stop value,
#     and the increment is greater than 0
# Output: A table of logarithms from start to stop, with increment
#     as the step value

if __FILE__ == $0
  print "Enter the start value: "
    start = gets.chomp.to_f
  print "Enter the stop value: "
    stop = gets.chomp.to_f
  print "Enter the increment value: "
    increment = gets.chomp.to_f

  while start <= stop
    value = Math.log10(start)
    puts "The Logarithm of #{start} is #{value}"
    start += increment
  end
end

cab35@englebart:~/Documents/cs214/labs/lab04$ ruby lo␇g_table.rb
␛[A␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛
[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[C␛[K
Enter the start value: 1
Enter the stop value: 10
Enter the increment value: 0.5
The Logarithm of 1.0 is 0.0
The Logarithm of 1.5 is 0.17609125905568124
The Logarithm of 2.0 is 0.3010299956639812
The Logarithm of 2.5 is 0.3979400086720376
The Logarithm of 3.0 is 0.47712125471966244
The Logarithm of 3.5 is 0.5440680443502757
```

```
The Logarithm of 4.0 is 0.6020599913279624
The Logarithm of 4.5 is 0.6532125137753437
The Logarithm of 5.0 is 0.6989700043360189
The Logarithm of 5.5 is 0.7403626894942439
The Logarithm of 6.0 is 0.7781512503836436
The Logarithm of 6.5 is 0.8129133566428556
The Logarithm of 7.0 is 0.8450980400142568
The Logarithm of 7.5 is 0.8750612633917001
The Logarithm of 8.0 is 0.9030899869919435
The Logarithm of 8.5 is 0.9294189257142927
The Logarithm of 9.0 is 0.9542425094393249
The Logarithm of 9.5 is 0.9777236052888477
The Logarithm of 10.0 is 1.0
cab35@englebart:~/Documents/cs214/labs/lab04$ exit

Script done on Fri 28 Feb 2014 09:41:56 AM EST
```