PROBLEM:
Write a program to print columns of numbers: number, the Square, the Square Root, and the Sine. The focus will be on printing the columns exactly as specified.

INPUT/OUTPUT DESCRIPTION:
- **The input** will be: two numbers from the keyboard, a Start and End.
- **The output** will consist of words forming column headers and followed by columns of numbers lined up correctly under the column headers.

ALGORITHM DEVELOPMENT:
Write a comment block with your name and the assignment name.
Include the three pre-processor directives that will be needed: stdio.h, stdlib.h, math.h.
Write the first line and the opening brace {.
Add variables as needed. Loop counters may be one letter.
Other variables should be self-documenting.
Print your name to the output: "Your Name. Lab4."
Use *printf/scanf* combinations to get your Start and End numbers.
Print your column headers as shown in the Output.
Use a *for* loop that begins with Start and ends <= to End.
printf a row of numbers: n, n*n, sqrt(n), sin(n)

REMINDERS:
The loop counter should be type **int**, and the rest of the numeric variables should be type **double**.

The math name is *sine*. The C function name is *sin*.

To compile, you will need to add **–lm** so math.h can be found. Type: **gcc –lm lab3.c**

The dashes used in the column headers are separated by 5 spaces.

In this assignment, you may ***NOT*** use:
- \t Horizontal tab
- \v Vertical tab

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DEFINED OUTPUT APPEARANCE (*using sample numbers*):

```
[bielr@athena lab4]> a.out

Your Name.  Lab 4.

Enter your Start Number:  4

Enter your End Number:  7

  N       Squared     Square Root       Sine
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   4          16           2.000       -0.757
   5          25           2.236       -0.959
   6          36           2.449       -0.279
   7          49           2.646        0.657

[bielr@athena lab4]> exit
```

Test your program using the numbers, 4 & 7 as above. Note that your final run will use different numbers mentioned below.

PREPARE YOUR FILE FOR GRADING:

When all is well and correct, type: **script StudentName_lab4.txt**
[Script will keep a log of your session.]

At the prompt, type: **cat lab4.c** to display the code in your session.
At the prompt, type: **gcc -lm lab4.c** to show that the code compiles without error.
At the prompt, type: **a.out** to run the program ***with the numbers below*.**
Enter your Start Number: **12**
Enter your End Number: **16**
After the run is complete, type: **exit** or (Control-d) to leave the script session

Turn in your completed session:

Go to SacCT and turn in your session (**StudentName_lab4.txt**).

HINTS: Yank & Put (Copy & Paste)

Copying and pasting in **vim** are accomplished with the commands **yank** and **put**.

Command Syntax	What It Accomplishes
y2w	Yanks two words, starting at the current cursor position, going to the right
4yb	Yanks four words, starting at the current cursor position, going to the left
yy *or* **Y**	Yanks the current line
p	Puts the yanked text after the current cursor position (lower case p)
P	Puts the yanked text before the current cursor position (upper case P)
5p	Puts the yanked text in the buffer five times after the current cursor position