**LAB 3B\_BONUS: (Individual) [100 Points]**

**Program 1:** *[****50 POINTS****]* Using *only the commands we have covered in class*, write a program that asks a user for a number of digits of precision, and prints the value 1/7 rounded to that many digits of precision.

e.g.

How many digits do you want? 3, should give output 0.143

How many digits do you want? 10, should give output 0.1428571429

**Program 2:** *[****50 POINTS****]*

The function is not defined at the value 0, since sin(0) is 0, and thus it would be evaluating 0/0. [Refer to the last bonus problem]

1. You are to show calculations for the values of *f(x)* for values of x ranging from 1 to 10-7.
2. You should show the evaluation by successive evaluations of 1/10 of the previous value. That is, first show the value for sin(1)/1, then sin(0.1)/0.1, etc.
3. Show results rounded to 8 digits of precision. Reuse code from above.