CS22203 Lab Assignment No. 1

Ex1. Plot the following functions using:
i) line graph, and ii) bar graph for varying values of n (say up to 10).
Plot the values of n (from 1 to 15) on the x-axis. Use the log scale of base 10
(i.e., convert the function values to the log of base 10 before plotting).

(you can use gnuplot (on Linux), or matplotlib Python library).
    $\log_2 n$, $n\log_2 n$, n^2, n^3, n^4, 2^n , $n!$

Ex. 2. Comparison of running times:
For each function f(n) and time t in the following table, determine the largest
size *n* of a problem that can be solved in time *t,* assuming that the algorithm to
solve the problem takes f(n) microseconds. Here lgn means $\log_2 n$ (log of n base
2).

Write a program that calculates the values in the table. You could represent this
table using a two-dimensional array.

	1 second	1 minute	1 hour	1 day
lg n				
$\sqrt{n}$				
n				
n lg n				
n^2				
n^3				
2^n				
n!				