CIS Selected languages Perl Assignment 2

1. Create an array with an even number of elements. Assign that array to a hash. Display the keys of the hash, and then display the values of the hash.

2. The factorial of a nonnegative integer n is written n! (pronounced “n factorial”) and is defined as follows:
   n! = n · (n - 1) · (n - 2) ·… · 1 (for values of n greater than or equal to 1) and n! = 1 (for n = 0).
   For example, 5! = 5 · 4 · 3 · 2 · 1, which is 120. Write a program that reads a nonnegative integer and uses a foreach structure to compute and print its factorial.

3. Write a subroutine that prints the number of arguments passed to it.

4. Define a constant called PI with the value 3.14159. Use this constant in a subroutine that receives the radius of a circle and returns the area of the circle if it is called in scalar context but a list containing the area, the diameter and the circumference if called in list context. Use the following formulas(r is the radius): area = pr2, diameter = 2r, circumference = 2pr.

5. Write two subroutines to calculate the maximum of a set of values passed as arguments. One subroutine should calculate the maximum value iteratively and the other should calculate the maximum value recursively.

6. Perl’s built-in function localtime is an example of a function that returns a string representing the time when called in scalar context and a list of integers representing parts of the time when called in list context. Write a program that demonstrates these features of localtime.

7. Open a file, and print every third line to another, new file. Start by printing the first line, and continue by printing the third line after that, and the third after that and so on.

Example input file:

hello
two
three
number 4
the next
another
should be printed
one
more
last.

Example output file:

hello
number 4
should be printed
last.

8. Open a file, and output its contents in reverse order to a second file.

Example input file:

.eerht enil won dna
ereh owt enil
eno enil si siht

Example output file:
this is line one
line two here
and now line three.