Deadline:
Feb-02-2021, 11:59 PM]

Programming Assignment

① write a function rightrot(x,n) that returns the value of the integer x rotated to the right by n positions.

② write a function bitcount which counts the number of 1-bits in its integer argument.

③ write a function upper which converts upper case letters to lower case with the conditions Expression instead of if-else.

④ write a function escape(s,t) that converts characters like newline and tab into visible escape sequences like \n and \t as it copies the string t to s. Use a switch. Write a function for the other direction as well, converting escape sequences into the real characters.

⑤ write a function void itoa(int n, char s[]) that converts n to characters in s.

⑥ write the function itob(n,p,b) that converts the integer n into a base b character representation in the string p. In particular itob(n,p,16) formats p as a hexadecimal integer in p.

(7) write the function strindex(s,t) which returns the position of the rightmost occurence of t in s or -1 if there is none.

(8) write a recursive version of the function reverse(s) which reverses the string in place!

(9) Define a macro swap(t,x,y) that interchanges two arguments of type t.

(10) write a function strend(s,t) which returns 1 if the string t occurs at the end of the string s, and zero otherwise.

(11) write the program expr, which evaluates a reverse Polish Expression from the command line, where each operator or operand is a separate argument.

For example.

./expr 2 3 4 + *

Evaluates 2 * (3+4).

(12) write the program tail, which prints the last n lines of its input. By default n is set to 10. But it can be changed by an optional argument so that

tail -n

prints the last n lines. (Note: tail is executable file name of your program. You may use ./tail -n]

(13) write a program that Converts Upper Case to lower case or lower Case to upper case, depending on the name it is invoked with, as found in argv[0].

(14) write a program to Compare two files, printing the first line where they differ.