

Assignment – 1

1. Write a program to counts number of vowels and consonants in given string. Then find which vowels occur how many times.
2. Write a LEX program to count the number of Positive and negative integers and fractions.
3. Write a LEX program to count the total numbers of words and numbers of lines presents in comment lines in a given C program. Also eliminate them and copy that program into separate file.
4. write a LEX program to count the no of 'scanf' and 'printf' statements in a given C program. Replace them with 'readf' and 'writef' statements respectively.
5. Write a LEX program to count and identify the operators and identifiers from a valid arithmetic expression. Print them separately.
6. Write a program to convert an simple arithmetic Expression from Infix to Postfix
7. Write a program to take one file as input, the file with some identifiers, store the identifiers in a table (using hashing) if not available; give error message if it is already present.
8. Implement 'wc' command of LINUX system (i.e., count number of characters, words and lines in a file). Also implement 'mwc' (multiple file names in wc command)
9. Write a Lex Program that will validate a password.
A password is correct if it contains:
 - a. At least 1 uppercase character
 - b. At least 1 lowercase character
 - c. At least 1 digit
 - d. At least 1 of these special character ~`!@#\$\$%^&*()_-=+{[]|\:;'"<, >. ? /
 - e. Minimum length 8 (characters)
 - f. Maximum length 15 (characters)
10. Write a Lex Program that will validate an E-mail address. Format of an email address is local-part@domain
Local part of the E-mail address may use any of these ASCII Characters:
 - a. uppercase and lowercase letters A to Z and a to z
 - b. digits, 0 to 9
 - c. Printable characters, !#\$%&'*+,-/=^_`{|}~

- d. dot ., provided that it is not the first or last character and provided also that it does not appear consecutively (e.g., John..Doe@example.com is not allowed)

The domain name part of an email address has to conform to strict guidelines:

- a. uppercase and lowercase letters A to Z and a to z;
- b. digits 0 to 9, provided that top-level domain names are not all-numeric;
- c. hyphen - , provided that it is not the first or last character.

Example: example-indeed@strange-example.com (allowed).
A@b@c@example.com (not allowed - only one @ is allowed
outside quotation marks)