**EEL 2880: Software Techniques: Modified Fall 2019: 10 24 2019**

**Dr. Subbarao V Wunnava: Chp 8\_9: Strings and Security:**

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**8.5 *(Character Testing)* Write a program that inputs a character from the keyboard and tests the character with each of the functions in the character-handling library. The program should print the value returned by each function**.

// Exercise 8.5 Solution: Subbarao/Deitel 10 18 2019 EEL 2880: Problem 8.5 modified: String

// string functions copy right extended thru 2019

#include <stdio.h>

#include <ctype.h>

#include <math.h>

int main( void )

{

int c; // character input by user

printf( "%s", "Enter a character: " );

c = getchar();

// test each function of the character-handling library

printf("\n\a the ASCII numeric value of the entered character %c: %d \n\n\a ", c, c);

printf( "isdigit( \'%c\' ) = %d\n\a", c, isdigit( c ) );

printf( "isalpha( \'%c\' ) = %d\n\a", c, isalpha( c ) );

printf( "isalnum( \'%c\' ) = %d\n\a", c, isalnum( c ) );

printf( "isxdigit( \'%c\' ) = %d\n\a", c, isxdigit( c ) );

printf( "islower( \'%c\' ) = %d\n\a", c, islower( c ) );

printf( "isupper( \'%c\' ) = %d\n\a", c, isupper( c ) );

printf( "tolower( \'%c\' ) = %d\n\a", c, tolower( c ) );

printf( "toupper( \'%c\' ) = %d\n\a", c, toupper( c ) );

printf( "isspace( \'%c\' ) = %d\n\a", c, isspace( c ) );

printf( "iscntrl( \'%c\' ) = %d\n\a", c, iscntrl( c ) );

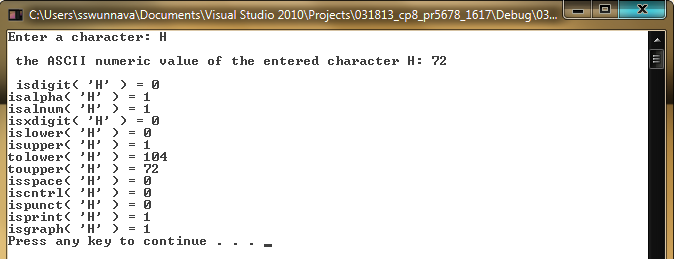
printf( "ispunct( \'%c\' ) = %d\n\a", c, ispunct( c ) );

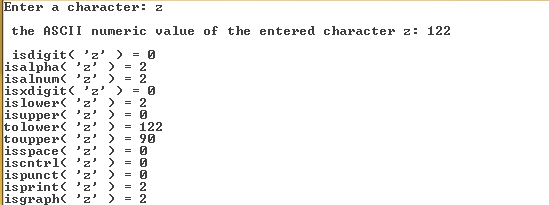
printf( "isprint( \'%c\' ) = %d\n\a", c, isprint( c ) );

printf( "isgraph( \'%c\' ) = %d\n\a", c, isgraph( c ) );

system("PAUSE");

} // end main



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**8.6 *(Displaying Strings in Uppercase and Lowercase)* Write a program that inputs a line of text into char array s[100]. Output the line in uppercase letters and in lowercase letters.**

// Exercise 8.6 Solution: Upper and Lower Case letters

// Deitel/Subbarao EEL 2880 Fall 2019 10 22 2019

#include <stdio.h>

#include <ctype.h>

int main( void )

{

char s[ 100 ]; // define character array of size 100

size\_t i; // loop counter

// use gets to get text from user

puts( "Enter a line of text: \a\a\n\n" );

fgets( s, 100, stdin );

puts( "\n\aThe line in uppercase is:" );

// convert each character to uppercase and output

for ( i = 0; s[ i ] != '\0'; ++i )

{

printf( "%c", toupper( s[ i ] ) );

} // end for Uppercase characters

puts("");

printf( " Uppercase ASCII code for the entered string \n\n\a\a");

for ( i = 0; s[ i ] != '\0'; ++i )

{

printf( " %c:%d",toupper(s[ i ]),toupper(s[ i ]));

} // end for Uppercase ASCII code

puts( "\n\n\a The line in lowercase is:" );

// convert each character to lowercase and output

for ( i = 0; s[ i ] != '\0'; ++i )

{

printf( "%c", tolower( s[ i ] ) );

} // end for Lowercase characters

printf( " Lowercase ASCII code for the entered string \n\n\a\a");

for ( i = 0; s[ i ] != '\0'; ++i )

{

printf( " %c:%d", tolower( s[ i ]),tolower( s[ i ]) );

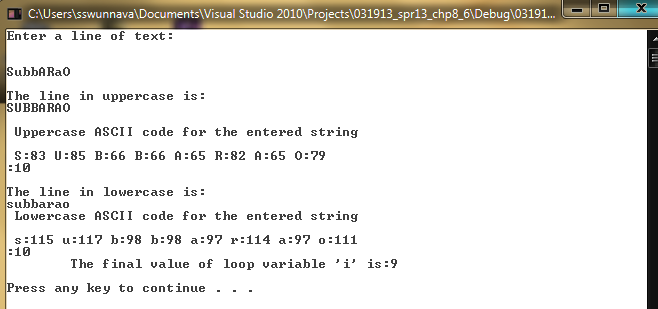
} // end for Lowercase ASCII

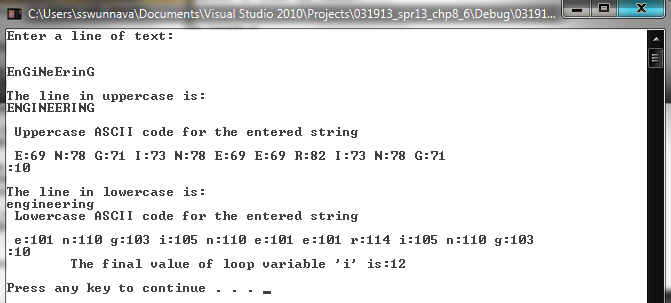
printf( "\n \a\t The final value of loop variable 'i' is:%d\n", i);

puts( "" );

system("PAUSE");

} // end main

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**8.20 *(Counting the Number of Words in a String)* Write a program that inputs several lines oftext and uses strtok to count the total number of words. Assume that the words are separated by either spaces or newline characters.**

// Exercise 8.20 Solution: Deitel/Subbarao 10 11 2019: Counting words

#include <stdio.h>

#include <string.h>

int main( void )

{

char text[ 4 ][ 80 ]; // text entered by user upto 4 lines and . 80 characters a line

char \*tokenPtr; // pointer to current token

size\_t i; // loop counter

int counter = 0; // token counter

puts( "Enter 4 lines of text:\a\n " );

// read 4 lines of text

for ( i = 0; i <= 3; ++i )

{

fgets( &text[ i ][ 0 ], 80, stdin );

} // end for loop 1 for lines of text

// loop through 4 lines of text

for ( i = 0; i <= 3; ++i )

{

// get first token

tokenPtr = strtok( &text[ i ][ 0 ], " \n" );

// while tokenPtr does not equal NULL

while ( tokenPtr )

{

++counter;

tokenPtr = strtok( NULL, " \n" ); // get next token

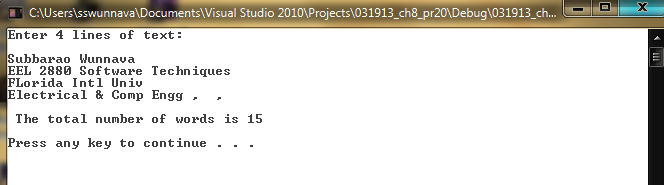
} // end while

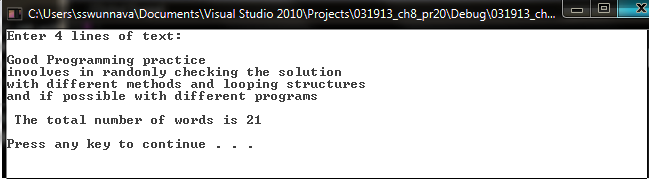
} // end for getting tokens

printf( "\n\a\a The total number of words is %d\n\n", counter );

system("PAUSE");

} // end main

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