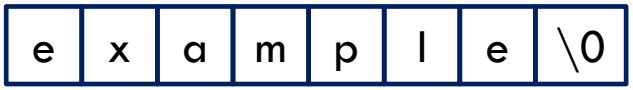
EECS 22L: TAXI CAB MANAGEMENT

Week 8

Due Date: 03/02/15, 12:00 pm

Strings in C

- String:
  - Array of characters
  - pointer to memory block containing ASCII characters
  - end with NULL character



String Declaration and Initialization

- As Array
  - char c[] = “example”;
  - char c[8] = “example”;
  - char c[]={'e', 'x', 'a', 'm', 'p', 'l', 'e','\0'};
  - char c[8]={'e', 'x', 'a', 'm', 'p', 'l', 'e','\0'};

- As Pointers
  - char *c= “example";

String Handling Functions

- Prototyped in string.h

Function	Functionality
int strlen(const char *string)	Calculates the length of string
strncat(char *s1, char *s2, int n)	Append n characters from s2 to s1.
strlwr(sname) / strupr(sname)	Converts all the characters in string to lowercase/uppercase characters.
int strncmp(char *s1, char *s2, size_t n)	Compare first n characters of two strings. (returns 0 if equal)
strcpy(destination, source)	Copies the content of string source to the content of string destination.

String Searching

Function	Functionality	Example
char *strchr(const char *s, int c)	Find first occurrence of character c in string	char *s1 = "Hello"; char *ans; ans = strchr(s1, 'l'); (s1 + 2)
char *strrchr(const char *s, int c)	Find last occurrence of character c in string.	char *s1 = "Hello"; char *ans; ans = strrchr(s1, 'l'); (s1 + 3)
char *strstr(const char *s1, const char *s2)	Locates the first occurrence of the string s2 in string s1.	char *s1 = "Hello"; char *s2 = "lo"; ans = strstr(s1, s2); (s1 + 3)
size_t strspn(const char *s1, const char *s2)	Returns the number of characters at the beginning of s1 that match s2.	char *s1 = "Hello1234"; char *s2 = "Hell"; ans = strspn(s1, s2); (4)

Character conversions and testing: ctype.h

- Character Testing
  - int isalnum(int c) -- True if c is alphanumeric.
  - int isalpha(int c) -- True if c is a letter.
  - int isascii(int c) -- True if c is ASCII .
  - int isspace(int c) -- True if c is a space character.
  - int isupper(int c) -- True if c is an uppercase letter.

- Character Conversion
  - int toascii(int c) -- Convert c to ASCII .
  - int tolower(int c) -- Convert c to lowercase.
  - int toupper(int c) -- Convert c to uppercase.

Class Problem

Write a C Program to Print the Words Ending with any digit

Sample Output

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Enter a string : hel1 yu3 ishf tyo4 fdewr2 gdjs jjs 1
hel1
yu3
tyo4
fdewr2
1
```