Characters and Strings

NOTES

Characters

- "%c" is used to print/scan character
- By using "%d", you can print the ASCII value of the character.

Scan and Print

- ch = getchar();   is the same as scanf("%c", &ch);
- putchar(ch);   is the same as printf("%c", ch);

Character Functions

- #include <ctype.h>
  - **isalpha()** – is English letter?
  - **isupper()** – is upper case? toupper()
  - **islower()** – is lower case? tolower()
  - **isdigit()** – a digit character?
  - **isalnum()** – an alphanumeric character?
  - **isspace()** – a whitespace character?
  - **ispunct()** – a punctuation character?

Strings

- scanf("%s", name);   // reads in a word
- char fruit[] = {"apple"}; char toy[9] = {0};
- char fruits[][6] = {"apple", "mango", "pear"};

- **To read a sentence:**

```
fgets(str, 8, stdin);  // read a line of input
len = strlen(str);  // find length of string
if ( str[len-1] == '\n' )
    str[len-1] = '\0';
```

String Functions (Must include <string.h>)

- **strlen (s)**
  Return the number of chars in s, excluding the null character.

- **strcmp (s1, s2)** 0 is equal;
  Compare s1 and s2 character by character, from left to right.
  Comparison stops once a difference is found or reach the end.

- **strncmp (s1, s2, n)**
  Compare the first n characters of s1 and s2.

- **strcpy (s1, s2)**
  Copy the string pointed to by s2 into array pointed to by s1.

- **strncpy (s1, s2, n)**
  Copy the first n characters of s2 into s1.

String Functions

- **strcat (s1, s2)**
  Append a copy of string s2, including the terminating null character, to the end of string s1.

- **strncat (s1, s2, n)**
  Append at most n characters from s2 to s1.

- **strchr (s, c)**
  Return a pointer to the first occurrence of character c in string s. Returns a NULL pointer if c is not found in s.

- **strstr (s1, s2)**
  Returns a pointer to the first appearance of string s2 in s1. Returns a NULL pointer if s2 is not found in s1.