C Strings
Strings

- Strings versus Single characters
- Pointers versus Arrays
- Accessing Array of Strings with Pointers
Strings

- Strings are arrays of characters treated as a single unit and terminated by '\0' (null).
- The \0 occupies one char in the array of characters.

H e l l o \0
Strings

- A string is accessed by a pointer to the first character in the string.
- Since the value of a string is the address of its first character, in C a string is a pointer!
char c = 'W';
char *s = “George Bush”
char s2[] = “Hillary”

s2
H i l l i a r y \0
Character Strings

s2[0] = 'B';
s2[4] = '\0';

printf("%s\n", s2);
A string can be stored into an array using `scanf`.

```c
char president[20];
scanf ("%s", president);
```
```c
/* An Example of an Array of Strings accessed using a string pointer */
int main ()
{
    int i, j;
    char let = 'A';
    char cray [3][10];
    char *cptr [3];
    for (j=0; j<3; j++)
        cptr[j] = &cray [j][0];
    for (j=0; j<3; j++)
    {
        let = let +1;
        for (i=0; i<9; i++)
            cray [j][i] = let + i;
        cray [j][9] = '\0';
    }
    for (j=0; j<3; j++)
        printf("j = %d, char = %s\n", j, cptr[j]);
    return 0;
}
```

./charray
j = 0, char = BCDEFGHIJ
j = 1, char = CDEFGHIJK
j = 2, char = DEFGHIJKL
More on Strings!!

- not right now

- Read parts of Chapter 8 for Program 4