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Lab 10 - Post-Lab

Part 1:

```c
#include <stdio.h>

char* strcpy (char*, const char*);

void main() {
    char string[20] = "hello";
    char copy[20];

    strcpy(copy, string);
    printf("String: %s", copy);
}

char* strcpy (char* strDest, const char* strSrc) {
    char *begin = strDest;

    while(*strSrc != '\0')
    {
        *strDest = *strSrc;
        strDest++;
        strSrc++;
    }

    *strDest = '\0';
    return begin;
}
```

Here strcpy can copy strSrc to strDest, but why we use char* as the return value of strcpy?

We use char* as the output for strcpy so we have the pointer for the beginning of the destination string. Because otherwise we will lose the pointer for the address of the beginning of the destination string.

Part 2:

```c
#include <stdio.h>
#include <string.h>

void findStr();

void main() {
    findStr();
}

void findStr() {
    char smallestString[20];
    char longestString[20];

    while (1)
    {
        char string[20];
        printf("Enter word: ");
        scanf("%s", &string);

        if (strlen(string) == 4) {
            break;
        }

        if (strlen(smallestString) == 0) {
            strcpy(smallestString, string);
        }

        if (strcmp(string, smallestString) < 0) {
            strcpy(smallestString, string);
        }
        if (strcmp(string, longestString) > 0) {
            strcpy(longestString, string);
        }
    }

    printf("Smallest word: %s \nLargest word: %s \n", smallestString,
longestString);

}
```

```
[pofremu1@gsuad.gsu.edu@snowball Lab10]$ ./findStr
Enter word: dog
Enter word: zebra
Enter word: rabbit
Enter word: catfish
Enter word: walrus
Enter word: cat
Enter word: fish
Smallest word: cat
Largest word: zebra
[pofremu1@gsuad.gsu.edu@snowball Lab10]$
```