

Part 1:

```
1. char* strcpy(char* strDest, const char* strSrc)
{
    unsigned i;

    //copying the src string into the dest string
    for (i=0; strSrc[i] != '\0'; ++i)
        strDest[i] = strSrc[i];

    strDest[i]='\0';//appending null to end

    return strDest;//returning pointer to dest string
}
```

2.

We use char* as return type for two reasons ; first this prototype make coding easier for nesting purpose like we can just call this function within printf() function and the destination string would be printed. Another reason is that if any function returns some value than we can check whether this function works correctly or not by checking the return value; that means if(strcmp()==null) then within function there must be something wrong,so like this error check can be done with the help of return value. These are some reasons for using return type in strcpy().

Part 2:

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

int main() {
    char smallest[100], largest[100];
    int i = 0;
    char temp[100];
    while(1) {
        printf("Enter word: ");
        scanf("%s", temp);
        if(i == 0) {
            strcpy(smallest, temp);
            strcpy(largest, temp);
        }
        else {
            if(strcmp(temp, smallest) < 0) {
                strcpy(smallest, temp);
            }
            if(strcmp(temp, largest) > 0) {
                strcpy(largest, temp);
            }
        }
        if(strlen(temp) == 4) {
            break;
        }
        i++;
    }
    printf("\nSmallest word: %s\n", smallest);
    printf("\nLargest word: %s\n", largest);
}
```