

Week 5 Lab Tutorial: Character Strings – Suggested Solutions

Lab Questions

Q1

```
#include <stdio.h>
char *sweepSpace1(char *str);
char *sweepSpace2(char *str);
int main()
{
    char str[80];

    printf("Enter the string: \n");
    gets(str);
    printf("sweepSpace1(): %s\n", sweepSpace1(str));
    printf("sweepSpace2(): %s\n", sweepSpace2(str));
    return 0;
}
char *sweepSpace1(char *str)
{
    int i, j, len;

    i=0; len=0;
    while (str[i]!='\0'){
        len++;
        i++;
    }
    j = 0;
    for ( i=0; i < len; i++)
    {
        if (str[i] != ' ')
        {
            str[j] = str[i];
            j++;
        }
    }
    str[j] = '\0';
    return str;
}
char *sweepSpace2(char *str)
{
    int i, j, len;

    i=0; len=0;
    while (str[i]!='\0'){
        len++;
        i++;
    }
    j = 0;
    for ( i=0; i < len; i++)
    {
        if (*(str+i) != ' ')
        {
            *(str+j) = *(str+i);
            j++;
        }
    }
    *(str+j) = '\0';
}
```

```

    return str;
}

Q2
#include <stdio.h>
char *stringncpy(char *s1, char *s2, int n);
int main()
{
    char sourceStr[40], targetStr[40], *target;
    int length;
    printf("Enter the string: \n");
    gets(sourceStr);
    printf("Enter the number of characters: \n");
    scanf("%d", &length);
    target = stringncpy(targetStr, sourceStr, length);
    printf("stringncpy(): %s\n", target);
    return 0;
}
char *stringncpy(char *s1, char *s2, int n)
{
    int k, h;

    for (k = 0; k < n; k++) {
        if (s2[k] != '\0')
            s1[k] = s2[k];
        else
            break;
    }
    s1[k] = '\0';
    for (h = k; h < n; h++)
        s1[h] = '\0';
    return s1;
}
/* another version - using pointer */
/*
char *stringncpy(char *s1, char *s2, int n)
{
    int k, h;

    for (k = 0; k < n; k++) {
        if (*(s2+k) != '\0')
            *(s1+k) = *(s2+k);
        else
            break;
    }
    *(s1+k) = '\0';
    for (h = k; h < n; h++)
        *(s1+h) = '\0';
    return s1;
}
*/

```

```

Q3
#include <stdio.h>
#include <string.h>
#define SIZE 10
int findTarget(char *target, char nameptr[SIZE][80], int size);
int main()
{
    char nameptr[SIZE][80];
    char t[40];

```

```

    int i, result, size;

    printf("Enter size: \n");
    scanf("%d", &size);
    printf("Enter %d names: \n", size);
    for (i=0; i<size; i++)
        scanf("%s", nameptr[i]);
    printf("Enter target name: \n");
    scanf("\n");
    gets(t);
    result = findTarget(t, nameptr, size);
    printf("findTarget(): %d\n", result);
    return 0;
}
int findTarget(char *target, char nameptr[SIZE][80], int size)
{
    int i;
    for (i=0; i<size; i++) {
        if (strcmp(nameptr[i], target) == 0)
            return i;
    }
    return -1;
}

```

Q4

The program prints:

How are ya, sweetie?Beat the clock.

eat the clock.

win a toy.

win a snoopy.

win

chat

hat

at

t

t

at

How are ya, sweetie?