

# LAB 5

## ENGR 213

Ryan L.

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1. Write a C program that uses the function, PrintShampooInstructions(), with int parameter numCycles, and void return type.

```
CLanguage > ENGR214_C_Lab > L6 > C Q1_L6.c > ...
1  /*////////////////////////////////////
2  //  Title:      L6_Q1
3  //  Author:     Ryan L.
4  //  Description: uses a function to print shampoo instructions a specified amount and returns a void
5  *////////////////////////////////////
6  #include <stdio.h>
7  void printShampooInstructions(int cycles){
8      if (cycles <= 0){
9          printf("Too Few.");
10         return;
11     }
12     else if (cycles > 4){
13         printf("Too Many.");
14         return;
15     }
16     for(int i = 0; i < cycles; i++){
17         printf("%d: Lather and rinse.\n", i+1);
18     }
19     printf("Done.\n");
20     return;
21 }
22 int main(){
23     // Declare & Initialize variables (test case: 4)
24     int userCycles;
25     scanf("%d", &userCycles);
26     //Work
27     printShampooInstructions(userCycles);
28     return 0;
29 }
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Swapped Array: 40 20 30 10 > cd "c:\Users\ryanc\Docu
ab\L6\" ; if ($?) { gcc Q1_L6.c -o Q1_L6 } ; if ($?) { .\Q1_L6 }anguage\ENGR214_C_Lab\L6> c
4
1: Lather and rinse.
2: Lather and rinse.
3: Lather and rinse.
4: Lather and rinse.
Done.
```

2. Write a program in C that uses the function, `MakeSentenceExcited()` to replace any period with an exclamation point.

```
CLanguage > ENGR214_C_Lab > L6 > C Q2_L6.c > ...
1  /*//////////////////////////|
2  // Title:      L6_Q2.c
3  // Author:     Ryan L.
4  // Description: program in C that uses the function,
5  MakeSentenceExcited() to replace any period with an exclamation point.
6  *//////////////////////////
7  #include <stdio.h>
8  #include <string.h>
9
10 void MakeSentenceExcited(char sentence[]){
11     for(int i = 0; sentence[i] != '\0'; i++){
12         if (sentence[i] == '.' || sentence[i] == ','){
13             sentence[i] = '!';
14         }
15     }
16     //printf("%s", sentence);
17     return;
18 }
19 int main(){
20     // Declare & Initialize variables (test case: I told my computer I needed a break. It repli
21     char userSentence[200];
22     fgets(userSentence, 200, stdin);
23
24     //Work
25     MakeSentenceExcited(userSentence);
26     printf("%s", userSentence);
27     return 0;
28 }
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

guagesLearnt\CLanguage\ENGR214\_C\_Lab\L6\" ; if (\$?) { gcc Q2\_L6.c -o Q2\_L6 } ; if (\$?) { .\Q2\_L6 }

I told my computer I needed a break. It replied "I am sorry, I'm not programmed for that function.

I told my computer I needed a break! It replied "I am sorry! I'm not programmed for that function!

3. Write a C program that uses the function, `SwapArrayEnds()` to swap the first and last elements of the function's array parameter.

```
CLanguage > ENGR214_C_Lab > L6 > C Q3_L6.c > ...
1  /*//////////////////////////////////////
2  //  Title:          L6_Q3.c
3  //  Author:         Ryan L.
4  //  Description:    C program that uses the function, SwapArrayEnds() to swap
5  the first and last elements of the function's array parameter.
6  *//////////////////////////////////////
7  #include <stdio.h>
8
9  void SwapArrayEnds(int sortArray[], int arraySize){
10     int temp = sortArray[0];
11     sortArray[0] = sortArray[arraySize-1];
12     sortArray[arraySize-1] = temp;
13     return;
14 }
15 int main(){
16     // Declare & Initialize variables (test case: sortArray = {10, 20, 30, 40})
17     const int arraySize = 4;
18     int sortArray[4] = {10, 20, 30, 40};
19
20     //Work
21     SwapArrayEnds(sortArray, arraySize);
22
23     printf("Swapped Array: ");
24     for(int i = 0; i < arraySize; i++){
25         printf("%d ", sortArray[i]);
26     }
27     return 0;
28 }
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
\Documents\Code\LangLearnt\MyLanguagesLearnt\CLanguage\ENGR214_C_Lab\L6\" ; if ($?) { gc
; if ($?) { .\Q3_L6 }
Swapped Array: 40 20 30 10
```