CS16, 09F, H05 (Functions that print characters using for and if) Total Points: 50

Available online at: http://www.cs.ucsb.edu/~pconrad/cs16/09F/homework/H05 (printable PDF)

Accepted: on paper, in lecture (1pm-1:50pm, Chem 1171) on Friday, October 2
See syllabus and Homework assignment H00 for explanation of "late policy" and "sick day/personal day" policy.

Name: (4 pts)_____ UMail address (4 pts) _____@umail.ucsb.edu

Lab Section (2 pts) Circle one: 8am 10am 11am noon unknown

(Note: For now, circle the lab section you are registered for on GOLD.
If you need to request a different lab section because of an ACTUAL SCHEDULE CONFLICT, please email pconrad@cs.ucsb.edu with details)

This assignment is based on material covered in lecture on Friday 10/09, and Monday 10/12.

If you missed these lectures, as is traditional in college/university level coures, it is *your* responsibility to make up what you missed by getting notes from fellow classmates. It is not the instructors responsibility to review the lecture with you at a later time.

You may also find it helpful to read about for loops, functions, and printf in your textbook—see the table of contents and index to find appropriate chapters.

1. (20 pts) Write a C function definition for a function called printKSpacesNXs that takes two integer parameters, k and x. The function should print k spaces, and then n lowercase x characters on standard output. It should NOT print a new line after it is finished.

   Example output:

This code	produces this output

`printf("1234567890\n");`
`printf("|");`
`printKSpacesNXs(3,5);`
`printf("|\n");`
	`1234567890`
	`|  xxxxx|`

`printf("1234567890\n");`
`printf("|");`
`printKSpacesNXs(2,4);`
`printf("|\n");`
	`1234567890`
	`| xxxx|`

Please turn over for questions to answer

Continued from other side

2. (20 pts) Write a C function definition for a function called alternatePrintNTimes that takes one integer parameters n, and two character parameters c1 and c2. The function should alternate between printing c1 and c2, until n characters have been printed.

   Hints: There are many ways to approach this problem.

   One way is to use an if test that checks whether the index variable of a for loop is odd or even.
   If the variable i is odd, then i%2 will be 1. If it is even then i%2 will be 0.

   Another way is to initialize a character variable c to the value of c1 before the loop starts. Then, each time through the loop, you can check whether the value is c1 or c2, and depending on which value it is, you can change it to the other value.

   Example output:

This code	produces this output

`printf("1234567890\n");`
`printf("|");`
`alternatePrintNTimes(4,'x','o');`
`printf("|\n");`
	`1234567890`
	`|xoxo|`

`printf("1234567890\n");`
`printf("|");`
`alternatePrintNTimes(5,'x','o');`
`printf("|\n");`
	`1234567890`
	`|xoxox|`

`printf("1234567890\n");`
`printf("|");`
`alternatePrintNTimes(6,'+','-');`
`printf("|\n");`
	`1234567890`
	`|+-+-+-|`

`printf("1234567890\n");`
`printf("|");`
`alternatePrintNTimes(7,'+','-');`
`printf("|\n");`
	`1234567890`
	`|+-+-+-+|`

`printf("1234567890\n");`
`printf("|");`
`alternatePrintNTimes(7,'-','+');`
`printf("|\n");`
	`1234567890`
	`|-+-+-+-|`

End of H05