

**CSE376 Homework 2 (3/15/09)**

<b>Name:</b>	
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<b>General Comments:</b>	

	<b>Max</b>	<b>Actual</b>	<b>Comments</b>
<b>Part 1: Writing Code with Errors (BCC Check show Up or Core Dump)</b>	<b>22</b>	<b>0</b>	
01: Overflow a statically allocated array	1	0	
02: Underflow a statically allocated array	1	0	
03: Overflow a dynamic array.	1	0	
04: Underflow a dynamic array.	1	0	
05: free(0)	1	0	
06: free(NULL)	1	0	
07: freeing non-heap memory	1	0	
08: double-free	1	0	
09: reallocing non-heap	1	0	
10: use after free	1	0	
11: dereferencing 0	1	0	
12: dereferencing small positive/negative values	1	0	
13: non-aligned access	1	0	Only on a-solaris10s.
14: overlapping memcpy	1	0	
15: comparing across types	1	0	BCC may not catch.
16: illegal pointer	1	0	
17: reading uninitialized memory	1	0	BCC may not catch.
18: memcpy(NULL, ptr, len)	1	0	
19: memcpy(ptr, NULL, len)	1	0	
20: memcpy(ptr, NULL, 0)	1	0	
21: referencing popped variable	1	0	
22: referencing unchecked static object	1	0	BCC may not catch.

	<b>44</b>	<b>0</b>	
<b>Part 1: Writing Code with Errors (Inspection)</b>			
Your code must compile, otherwise it will not receive any credit in this section.			
01: Overflow a statically allocated array	2	0	
02: Underflow a statically allocated array	2	0	
03: Overflow a dynamic array.	2	0	
04: Underflow a dynamic array.	2	0	
05: free(0)	2	0	
06: free(NULL)	2	0	
07: freeing non-heap memory	2	0	
08: double-free	2	0	
09: reallocing non-heap	2	0	
10: use after free	2	0	

11: dereferencing 0	2	0
12: dereferencing small positive/negative values	2	0
13: non-aligned access	2	0
14: overlapping memcpy	2	0
15: comparing across types	2	0
16: illegal pointer	2	0
17: reading uninitialized memory	2	0
18: memcpy(NULL, ptr, len)	2	0
19: memcpy(ptr, NULL, len)	2	0
20: memcpy(ptr, NULL, 0)	2	0
21: referencing popped variable	2	0
22: referencing unchecked static object	2	0

<b>Part 2: Makefile</b>	<b>16</b>	<b>0</b>
prog-XX-bcc and prog-XX-gcc build the programs with the correct compiler	6	0
run-XX-gcc and run-XX-bcc run corresponding programs	2	0
all-bcc and all-gcc rules	2	0
depend rule	4	0
clean rule	2	0

<b>Part 3: malloc-debugging library</b>	<b>18</b>	<b>0</b>
Warn on double free	6	0
Warn on leaked memory at program termination	6	0
Warn on freeing in the middle of an xmalloced region	6	0

<b>Extra Credit: ElectricFence and libumem</b>	<b>8</b>	<b>0</b>
ElectricFence: One point for each demonstrated problem (up to four)	4	0
libumem: One point for each demonstrated problem (up to four)	4	0

<b>General Demerits</b>	<b>0</b>	<b>0</b>
Followed CVS submission guidelines improperly	0	0
Submission on time: deduct 1 point for every late hour (time rounded up in units of one)	0	0

<b>Total Grade (out of 100)</b>	<b>100</b>	<b>0</b>
<b>Total Extra Credit</b>	<b>8</b>	<b>0</b>