

Sheet1

Name	
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Item	Description
Valgrind report	All the logs are provided and the data is correct.
Autotools usage	Correct usage of autotools following the basic layout proposed. Make sure the configure.ac checks for the right requirements for the application (if any). Only the required autotools files are provided (autogenerated files MUST NOT be checked in into the repository)
Git control versioning	The delivery is correctly made using a git repository with the layout suggested and following the required work flow.
Getopt implementation	Correct usage of getopt for the command lines options
Library generation and usage (libmemcheck.so)	Correct build of libmemcheck.so and correct usage within memcheck application. (Hint: DO NOT use LD_PRELOAD in the command line)
Memcheck implementation	Adequate implementation of the memcheck program. (Hint: DO NOT use the system call)

Functionality	Running the memcheck program with the buggy binary provides the correct data.
TOTAL	

Percentage	Evaluation
10	10
10	8
10	10
5	5
20	20
25	25

20	15
100	93

<b>Notes</b>
Autotools was configured to follow the standard so it requires NEWS ./README ./AUTHORS ./ChangeLog which are not available.
<p>I think you overworked the way to communicate or expose the results, additionally sharing files is not efficient nor secure. Anyway it was implemented correctly.</p> <p>In the other hand, as another option you can use <code>execle</code> or <code>execve</code> to execute the program and pass the environment variable <code>LD_PRELOAD</code> on the call. From the man page <a href="https://linux.die.net/man/3/execle">https://linux.die.net/man/3/execle</a> we have</p> <p>“The <code>execle()</code> and <code>execvpe()</code> functions allow the caller to specify the environment of the executed program via the argument <code>envp</code>. The <code>envp</code> argument is an array of pointers to null-terminated strings and must be terminated by a NULL pointer. The other functions take the environment for the new process image from the external variable <code>environ</code> in the calling process.”</p> <p>For more see:</p> <p><a href="http://stackoverflow.com/questions/6014391/want-the-executable-run-by-execve-to-use-my-preloaded-library">http://stackoverflow.com/questions/6014391/want-the-executable-run-by-execve-to-use-my-preloaded-library</a></p>

There is an error on the library path used causing the tool to crash. Here is the required change:

```
diff --git a/assignment_1/memcheck/src/memcheck.c b/assignment_1/memcheck/src/memcheck.c
index 4fdcd17..f58e047 100644
--- a/assignment_1/memcheck/src/memcheck.c
+++ b/assignment_1/memcheck/src/memcheck.c
@@ -55,7 +55,7 @@ int main(int argc, char* argv[]) {
    char* ret = realpath(argv[0], fullpath);
    char* dirpath = dirname(fullpath);
    char lib[PATH_MAX+32];
-   snprintf(lib, PATH_MAX+32, "%s%s", dirpath, "../lib/libmemcheck.so");
+   snprintf(lib, PATH_MAX+32, "%s%s", dirpath, "../lib/.libs/libmemcheck.so");
    if (access(lib, R_OK & F_OK) == -1) {
        printf("-E- Can't read library %s\n", lib);
        return -1;
    }
```