Memory leaks

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In this homework we developed a C-based tool (using your OWN library) that helps the developer to determinate whether a C-based application has memory leaks (binary file is case4).

The libmemcheck.c is the code of the dynamic library where malloc and free functions are implemented, this code is based in [1]. The memcheck.c accept 3 options discussed previously (-h, -a, -p) and implement them using getopt as show in figure 1.

Unfortunately it wasn't possible to compile this code using autotools because a segmentation fault was obtained.

References

[1] A simple way to hack C/C++ application. `https://dev.to/visheshpatel/a-simple-way-to-hack-c-c-application-1gaa?i=i`", 24^{th} `May 2023`.

```
pamela@pamela-Inspiron-5379:~/HPEC/Homework1/Memory leaks/memcheck/src$ ./memcheck -h
Write -a to get author information
Write -p <PROGRAM>,PROGRAM specifies the path to the program binary that will be analyzed
pamela@pamela-Inspiron-5379:~/HPEC/Homework1/Memory leaks/memcheck/src$ ./memcheck -a
Author Pamela Salazar Espinoza
pamela@pamela-Inspiron-5379:~/HPEC/Homework1/Memory leaks/memcheck/src$ ./memcheck -p ../.././case4
25 5
All done! :)

Analysis finished!
Memory allocations: 30
Memory free: 9
Total memory leaks found: 21
```

Figure 1: Output of memcheck.c