**Homework**

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* Manual Testing

1. Each test script is in “./manual\_testing/run\_test.sh”
2. Each test file is in “./manual\_testing/test”
3. None
4. 텍스트, 스크린샷, 메뉴, 폰트이(가) 표시된 사진

   자동 생성된 설명 텍스트, 메뉴, 스크린샷, 폰트이(가) 표시된 사진

   자동 생성된 설명
5. The result is the same with (4.)
6. 텍스트, 폰트, 스크린샷이(가) 표시된 사진

   자동 생성된 설명
7. Test case 1, test case 2, test case 3
8. These functions are never called.
   1. fatal(mesg, errnum)
   2. at\_begline\_loc\_p (pattern, p, syntax)
   3. group\_in\_compile\_stack (compile\_stack, regnum)
   4. re\_compile\_fastmap (bufp)
   5. re\_set\_registers (bufp, regs, num\_regs, starts, ends)
   6. re\_search (bufp, string, size, startpos, range, regs)
   7. re\_search\_2 (bufp, string1, size1, string2, size2, startpos, range, regs, stop)
   8. re\_match (bufp, string, size, pos, regs)
   9. re\_match\_2 (bufp, string1, size1, string2, size2, pos, regs, stop)
   10. group\_match\_null\_string\_p (p, end, reg\_info)
   11. alt\_match\_null\_string\_p (p, end, reg\_info)
   12. common\_op\_match\_null\_string\_p (p, end, reg\_info)
   13. bcmp\_translate (s1, s2, len, translate)
   14. regcomp (preg, pattern, cflags)
   15. regexec (preg, string, nmatch, pmatch, eflags)
   16. regerror (errcode, preg, errbuf, errbuf\_size)
   17. regfree (preg)

* Concolic Testing
  1. KLEE 3.0
  2. klee grep.bc "abc" test/test\_1.txt
  3. Generated tests is in “software\_testing/concolic\_testing/klee/examples/software\_testing” folder
  4. None
  5. 텍스트, 스크린샷, 폰트, 메뉴이(가) 표시된 사진

     자동 생성된 설명
  6. Same with the (5.)
  7. These functions are never called.
     1. re\_search (bufp, string, size, startpos, range, regs)
     2. re\_search\_2 (bufp, string1, size1, string2, size2, startpos, range, regs, stop)
     3. re\_match (bufp, string, size, pos, regs)
     4. re\_match\_2 (bufp, string1, size1, string2, size2, pos, regs, stop)
* Fuzzing
  1. AFL++ 4.09a
  2. afl-fuzz -i in -o out -- ./grep\_aflplus -E "[0-9]|a(a|b)+" test/test.txt
  3. 텍스트, 스크린샷이(가) 표시된 사진

     자동 생성된 설명
  4. None
  5. 텍스트, 스크린샷, 폰트, 메뉴이(가) 표시된 사진

     자동 생성된 설명
  6. It is same with (5.)
* Static Analysis
  1. Clang 15.0
  2. 
  3. Alarm report is in “static\_analysis/alarm.log”.
  4. None
  5. 253 warnings
  6. These values are not enumerated in code. So, analyzer shows a warning which the case value might be uncertain. But each token is parsed well. So it will be okay.
     + 텍스트, 스크린샷, 폰트이(가) 표시된 사진

       자동 생성된 설명