

```
1: {- *
2:   * Find all of the words in the dictionary that have two or more
3:   * consecutive pairs of letters.
4: -}
5:
6: module Main
7: where
8:
9: import System.IO      -- openFile ReadMode
10: import Data.Char     -- toLower
11:
12: runs :: Eq a => [a] -> [(Int, a)]
13: runs [] = []
14: runs (x:xs) = runs' (1,x) xs where
15:   runs' a [] = [a]
16:   runs' (n,x) (y:ys)
17:     | x==y      = runs' (n+1,x) ys
18:     | otherwise = (n,x) : runs' (1,y) ys
19:
20: successivePairsCounts :: [Int] -> [Int]
21: successivePairsCounts (2:xs) = let
22:   (ys,zs) = span (==2) xs
23:   in 1+length ys: successivePairsCounts zs
24: successivePairsCounts (_:xs) =
25:   successivePairsCounts . dropWhile (/= 2) $ xs
26: successivePairsCounts [] = []
27:
28: maxPairCounts :: Eq a => [a] -> Int
29: maxPairCounts xs = maximum . (0:) . successivePairsCounts . map fst . runs $ xs
30:
31: bookkeeperIsh :: String -> Bool
32: bookkeeperIsh = (> 3) . maxPairCounts
33:
34:
35: getFileContents :: String -> IO String
36: getFileContents dictFile = do
37:   dictHandle <- openFile dictFile ReadMode
38:   fileContents <- hGetContents dictHandle
39:   return fileContents
40:
41: dictFileName :: String
42: dictFileName = "/Users/casper/Downloads/finnish-words-kaikkisanat.txt"
43:
44: main :: IO ()
45: main = do
46:   fileContents <- getFileContents dictFileName
47:   putStr . unlines . filter bookkeeperIsh . lines $ fileContents
```