

haskell_mini_project.hs

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1
2 -- 2.a --
3 createSquaredList :: (Integral a) => [a] -> [a]
4 createSquaredList [] = []
5 createSquaredList theList = [x^2 | x <- theList]
6
7 -- 2.b --
8 createSquareRootList :: (Integral a) => [a] -> [a]
9 createSquareRootList theList = [truncate (sqrt (fromIntegral n)) | n
  <- theList, isSquare n]
10 isSquare :: (Integral a) => a -> Bool
11 isSquare num = (floor (sqrt (fromIntegral num))) ^ 2 == num
12
13 -- 2.c --
14 getVowelFreeString :: String -> String
15 getVowelFreeString theString = [c | c <- theString, not $ isVowel c]
16 isVowel :: Char -> Bool
17 isVowel c = c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u'
18 isConsonant :: Char -> Bool
19 isConsonant c = not $ isVowel c
20
21 -- 2.d --
22 generateTwoSixSidedDiceThatValueSeven :: [[Int]]
23 generateTwoSixSidedDiceThatValueSeven = [[dieOne, dieTwo]
24     | dieOne <- [1..6],
25     dieTwo <- [1..6],
26     dieOne + dieTwo == 7]
27
28 -- 2.e --
29 makingThreeSimpleSentences :: [String] -> [String] -> [(String,
  String, String)]
30 makingThreeSimpleSentences namesList verbsList = take 3 [(subject,
  verb, object)
31     | subject <- namesList,
32     verb <- verbsList,
33     object <- namesList,
34     subject /= object]
35
```