```
-- setting the "warn-incomplete-patterns" flag asks GHC to warn you
-- about possible missing cases in pattern-matching definitions
{-# OPTIONS_GHC -fwarn-incomplete-patterns #-}

-- see https://wiki.haskell.org/Safe_Haskell
{-# LANGUAGE Safe #-}

module ClassTest1Retake (checkPeriodic, divisibleByIndex, findCubes, edit, edits,
solvable) where

import Data.List
import Data.Char

import Types

-------------------------------------------------------------------------------
---------------- DO **NOT** MAKE ANY CHANGES ABOVE THIS LINE ------------------
-------------------------------------------------------------------------------

{- Question 1 -}
checkPeriodic :: String -> Int -> Bool
checkPeriodic [] _ = False
checkPeriodic _ 0 = False
checkPeriodic s n =  [s!!i| i<-[0..length s], i + n < length s] == [s!!(i+n)| i<-
[0..length s], i + n < length s]

{- Question 2 -}
divisibleByIndex :: [Int] -> [Bool]
divisibleByIndex [] = []
divisibleByIndex l = [ isDivisible (l!!y) (y+1)  | y<-[0..(length l)-1]]

isDivisible :: Int -> Int -> Bool
isDivisible a b | a `mod` b == 0 = True
                |otherwise = False

{- Question 3 -}
findCubes :: Int -> [(Int,Int,Int)]
findCubes n = [(x,y,z) | x <-[1..n`div`3],
                         y <-[x..n`div`3],
                         z <-[y..n`div`3],
                         x^3 + y^3 + z^3 == n]

{- Question 4 -}
edit :: EditCommand -> Text -> Text
edit c t = case c of
            Insert s -> (s:fst t, snd t)
            MoveLeft -> (drop 1 (fst t) , take 1 (fst t) ++ (snd t))
            MoveRight -> (take 1 (snd t) ++ (fst t), drop 1 (snd t))
            BackSpace -> (drop 1 (fst t), snd t)

edits :: [EditCommand] -> Text -> Text
edits [] t = t
edits (comm:comms) t = edits comms (edit comm t)

{- Question 5 -}
solvable :: ([Bool] -> Bool) -> Int -> Bool
solvable f n = any (==True) (map f (makeList n))

makeList :: Int -> [[Bool]]
```

```
makeList n = [replicate a True ++ replicate (n-a) False | a <- [0..n]]

--make lsit of booleans with length n

--check if there is a list of booleans length n that satisfy f
```