module Main where

import Text.Read -- this gives access to readMaybe

-- The following actions are used below:
-- putStrLn :: String -> IO ()
-- putStr   :: String -> IO ()
-- getLine  :: IO String

main :: IO ()
main = do
  putStrLn "Welcome to the calculator!"
  putStr "What operation would you like to perform? (+, -, *, /) "
  let op <- getLine

  putStr "First operand: 
  arg1 <- getLine
  putStr "Second operand: 
  arg2 <- getLine

  -- op is of type String. (It has type String because of the
  -- 'op' of type String. (It has type String because of the
  -- type of getLine.)
  let result = performOperation op m_arg1 m_arg2
  putStrLn result
  putStrLn "Good-bye."

-- If all the arguments are valid, performs the operation requested.
-- Otherwise, returns an error string.
performOperation :: String -- the operator
                 -> Maybe Integer -- argument #1
                 -> Maybe Integer -- argument #2
                 -> String
performOperation "+" (Just a1) (Just a2) = show (a1 + a2)
performOperation "-" (Just a1) (Just a2) = show (a1 - a2)
performOperation "*" (Just a1) (Just a2) = show (a1 * a2)
performOperation "/" (Just a1) (Just a2) = show (a1 'div' a2)
performOperation _ _ _ = "Invalid inputs"