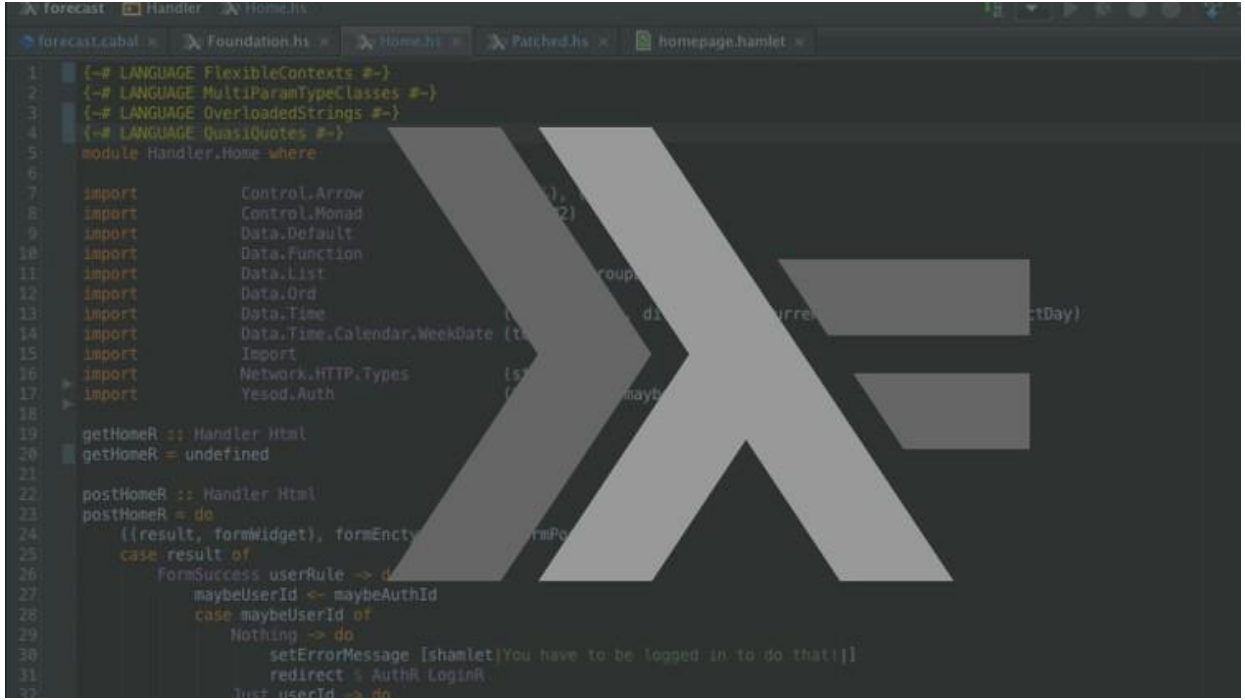
Input and Output



Input and Output

Input/output in Haskell is based on a monad:

- The main program is `main::IO()`
- The `IO` type constructor is used to handle input/output.
- `IO` is instance of `Monad`.
- It is usually used with do notation.

Input and Output

Some basic operations:

```
getChar     :: IO Char              -- gets next character
getLine     :: IO String            -- gets next line
getContents :: IO String            -- get the entire input

putChar     :: Char -> IO ()        -- writes a character
putStr      :: String -> IO ()      -- writes text
putStrLn    :: String -> IO ()      -- writes text and a line break
print       :: Show a => a -> IO () -- writes any showable
```

`()` is a zero-field tuple and `()` is the only value of type `()`.
(⇔ void of C).

Hello World Example

```haskell
main = do
    putStrLn "What is your name?"
    name <- getLine
    putStrLn $ "Hello " ++ name ++ "!"
```

Compilation and execution:

```
> ghc program.hs
[1 of 1] Compiling Main             ( program.hs, program.o )
Linking program ...

> ./program
What  is your name?
James
Hello James!
```

Instructor Youtube Channel: Lucas Science