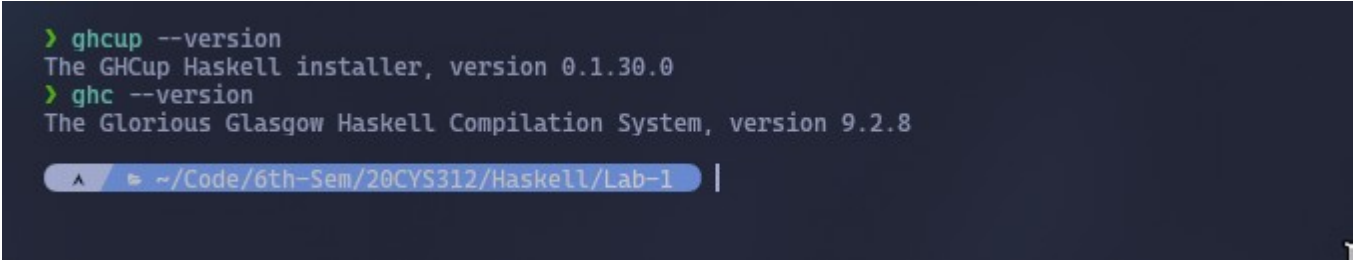


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B.Tech CSE(CYS)
School Of Computing
Principles of Programming Languages

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Task 1 – Install Haskell



```
> ghcup --version
The GHCup Haskell installer, version 0.1.30.0
> ghc --version
The Glorious Glasgow Haskell Compilation System, version 9.2.8
^ ~/.Code/6th-Sem/20CYS312/Haskell/Lab-1 |
```

Lab 1

Introductions to Programming Paradigms(Simple programs in haskell)

Part 1: Haskell Exercises

1. Basic Arithmetic

Exercise 1: Open GHCi and perform basic arithmetic options

```
> ghci
GHCi, version 9.2.8: https://www.haskell.org/ghc/  :? for help
ghci> 3+4
7
ghci> 3*4
12
ghci> 12*3
36
ghci> 
```

Exercise 2: Define a function to calculate the square of a number.

```
3 square :: Int -> Int
2 square x = x * x
1 main :: IO()
4 main = print(square 5)
```

```
3 square :: Int -> Int
2 square x = x * x
1 main :: IO()
4 main = print(square 3)
```

```
> ghc -dynamic -o square square.hs
[1 of 1] Compiling Main (square.hs, square.o)
Linking square ...
> ./square
1156
```

2. Defining and Using Lists

Exercise 3: Create a List of Numbers and compute the sum of the list

```
> nvim sumlist.hs
> ghc -dynamic -o sumlist sumlist.hs
[1 of 1] Compiling Main                ( sumlist.hs, sumlist.o )
Linking sumlist ...
> ./sumlist
15
> nvim sumlist.hs
```

3. Pattern Matching with lists

```
1  isempty :: [a] -> Bool
2  isempty [] = True
a 1  isempty _ = False
2  main :: IO ()
3  main = do
4      print (isempty [1,2,3])
5      print (isempty [])
6
```

```
> ghc -dynamic -o checklist checklist.hs
[1 of 1] Compiling Main                ( checklist.hs, checklist.o )
Linking checklist ...
> ./checklist
False
True
```

4. Simple IO Operations

```
2  main :: IO ()
1  main = do
3      putStrLn "What is your name?"
1      name <- getLine
2      putStrLn ("Hello , " ++ name)
```

```
> ghc -dynamic -o simpleio simpleio.hs
> ./simpleio
What is your name?
Yash Yashuday
Hello , Yash Yashuday
```