IIT Guwahati, Dept of CSE, CS331: Prog. Lang Lab

Assignment III: Basic Haskell Programming

Deadline: 11.55 PM IST, 04th March 2025

(Demo Date and Time: 05th March 2025, 9AM to 12Nn)

A) Define function to implement square root of number upto accuracy 0.00001. Your algorithm should be efficient interms of complexity.

Input: 23.56, output: 4.85386

B) Define function to find value of nth fibonacci number. Your algorithm complexity should be O(n) or lower.

Input: 10, output: 55

Input: 200, output: 280571172992510140037611932413038677189525

Prelude> (minBound, maxBound) :: (Int, Int) //Int is bounded
(-9223372036854775808,9223372036854775807)
Int is bounded but Integer is not bounded. Any size we can take

C) Define function to implement quick sort in Haskell using list comprehension.

Input: [12, 2, 4, 5, 18], output: [2, 4, 5, 12, 18]

Submission Procedure:

- Upload your assignments code in the compressed folder (tgx/zip/gz) to MS team Grp_PLLab-CS331-2025 before the deadline.
- **Please embed comments, how to run and required inputs properly in the code, or a separate readme file**
- **Embedd 5 to 10 test cases for each functions.**
- Source code will be checked for plagiarism, which can detect variable/function name change, minor structure change (while loop to for loop, vice versa), code displacement/repositioning**.**
- **Plagiarism case leads to F grades for both source candidate and destination candidate**. Make your code different from the internet code if available freely.