

Roll No.: _____
Amrita Vishwa Vidyapeetham
Amrita School of Computing, Coimbatore
B.Tech. Lab Exam– March 2024
Sixth Semester
Computer Science and Engineering
19CSE313 Principles of Programming Language

Duration: One hour

Maximum: 20 Marks

SET 1

Course Outcomes (COs):

CO	Course Outcomes
CO01	Understand and write pure functional programs (especially in Haskell and Scala).
CO02	Understand and write concurrent programs in Java.
CO03	Formulate abstractions with higher order procedures.
CO04	Formulate abstractions with data.

Rubrics		
Q1 – Implementation (6)	Q2 – Implementation (6)	Output (Q1 + Q2 – 4 + 4)
0 - Not done	0 - Not done	0 + 0 - Not done
2-Base Case	2 – Base case	2 + 2 - Partial Output

1. Define a recursive function called twoSame with the type signature `twoSame :: [Int] -> Bool`, which takes a list and checks whether the lists has more than one occurrence of it's members in the list. [CO01][BTL3][10]

Example: `twoSame [1,2,3,3]` gives True

2. Define a higher order function `altMap :: (a -> b) -> (a -> b) -> [a] -> [b]` that alternately applies its two argument functions to successive elements in a list, in turn about order. For example:

`> altMap (+10) (+100) [0,1,2,3,4]` gives `[10,101,12,103,14]` [CO03][BTL3][10]