Alexander Laudino

CSC-162-IN1

Dr. Farrett

Lab Assignment 4 – Ackermann Function Reference Documents

Requirements

Requirements for AckermannFunction

Requirement	Priority
Method to return Ackermann function value	High
Display result for given parameters	High

Requirements for DemoAckermannFunction

Requirement	Priority
List containing input argument for method	High
Create new AckermannFunction object	High
Call method to display result	High

Pseudo-code

This program demonstrates the Ackermann's function.

DemoAckermannFunction

Begin

1. Initialize list of non-negative integer pairs
2. Create new AckermannFunction object as demo
3. Call demo.printAckermann(list)

End

The methods for Ackermann function and to display results

AckermannFunction

Begin ackermann(int m, int n)

1. If (m == 0)
2. Return n + 1
3. Else if (m > 0 and n == 0)
4. Return ackermann(m – 1, 1)
5. Else if (m > 0 and n > 0)
6. Return ackermann(m – 1, ackermann(m, n – 1)
7. Else
8. Return n + 1

End

Begin printAckermann(int[][] list)

1. Int c0 = 0
2. Int c1 = 1
3. For row in list
4. Print "Ackermann function value for (" + list[row][c0] + ", " + list[row][c1] + "): " + ackermann(list[row][c0], list[row][c1])

End

UML