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CPSC 474

Summary of report document

This report document contains the pseudocode of the algorithm and three screenshots. One screenshot is of the group members and the rest are snapshots of the code executing.

Pseudocode:

Algo Verify

—----------

1)Declare a vector variable result

2)Taking 2 instructions (Consider 1 as simple instruction and other as block instruction)

a. 1st instruction loop:

for (int i = 0; i < blockInstructionSize - 1; i++)

// getting the output variable

char simpleinstructionOutput = BlockInstructions[i][0];

// getting input variables

set<char> simpleInstructionInputVariables = getInputVariables(BlockInstructions[i]);

b. 2nd instruction loop:

for (int j = i + 1; j < blockInstructionSize; j++)

// getting the output variables

char blockInstructionOutputVariable = BlockInstructions[j][0];

// getting input variables

set<char> blockInstructionInputVariables = getInputVariables(BlockInstructions[j]);

3) Check if ()

a. Instructions are !flowdependent

b. Instructions are !antidependent

c. Instructions are !outputdependent

4) Push the parallel instructions to result if checks pass

result.push_back(parallelInstrucitonsSet);

5) return result;

Algo Calculate

—----------

1)Declare a vector variable result

2)Taking 2 instructions (1 simple instruction and 1 block instruction)

a. Block instruction loop:

for (int i = 0; i < blockInstructionSize; i++)

// getting the output variable

char blockInstructionOutputVariable = BlockInstructions[i][0];

// getting the input variable

set<char> blockInstructionInputVariables = getInputVariables(BlockInstructions[i]);

3) Check if ()

a. Instructions are !flowdependent

b. Instructions are !antidependent

c. Instructions are !outputdependent

4) Push the parallel instructions to result

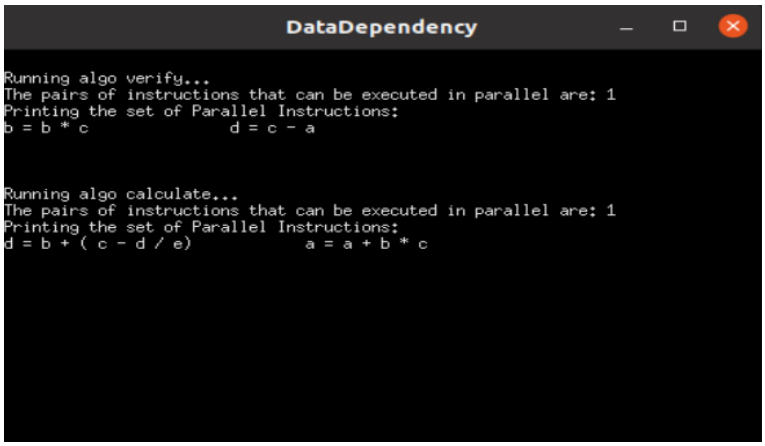
result.push_back(parallelInstrucitonsSet);

5) return result;

Two snapshots of code executing for some two distinct values of N:

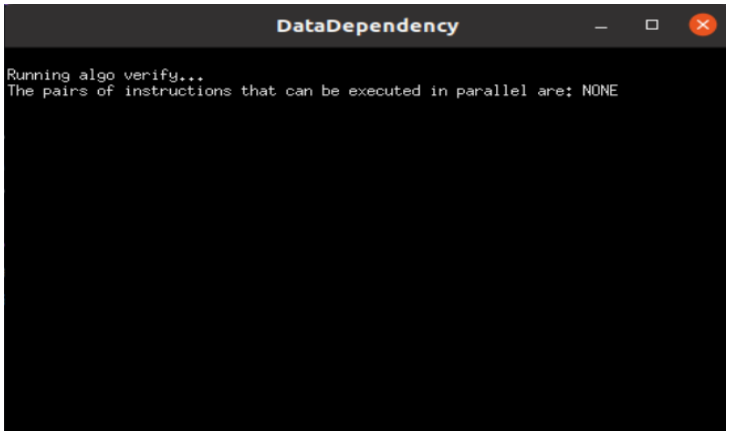
INPUT:
Instruction:
d = b + (c – d / e)

Block:
b = b * c
d = c – a
a = a + b * c



INPUT:

Block:
a = a * b * c
c = c – a
a = a + b * c



Group members screenshot:

README.md

474-Project1

Project 1: Data Dependency

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