COMP1680 - Clouds, Grids and Virtualisation Coursework Report

Azhar Muhammed - 001364857 Word Count:

1. Executive Summary

2. Part 1: Parallel Processing using Cloud Computing

2.1. Analysis

2.2. Comparison

2.3. Recommendation

3. Part 2: Parallel Programming Exercise

3.1. Step 1

Here's an example of the Jacobi code with GitHub-style formatting:

```c
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include <sys/time.h>

#define TOP_TEMP    15.0
#define BOTTOM_TEMP 60.0
#define LEFT_TEMP   47.0
#define RIGHT_TEMP  100.0

void initialize_grid(double **grid, int n, int m) {
    int i, j;

    // Initialize interior points to 0
    for (i = 1; i < n-1; i++) {
        for (j = 1; j < m-1; j++) {
            grid[i][j] = 0.0;
        }
    }

    // Set boundary conditions
    for (i = 0; i < n; i++) {
        grid[i][0] = LEFT_TEMP;      // Left boundary
        grid[i][m-1] = RIGHT_TEMP;   // Right boundary
    }
    for (j = 0; j < m; j++) {
        grid[0][j] = TOP_TEMP;       // Top boundary
        grid[n-1][j] = BOTTOM_TEMP;  // Bottom boundary
    }
}
```

Listing 1. Example of Jacobi 2D Implementation

3.2. Step 2

3.3. Step 3

4. Conclusions