Problem Chosen	2021	Team Control Number
A	**MCM/ICM** **Summary Sheet**	**2123481**

The XXX problem

Summary

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Keywords: Matlab; Mathematical modelling.

The XXX problem

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February 8, 2021

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Contents

1   Introduction

1.1   Problem Background

1.2   Literature Review

1.3   Our work

2   Preparation of the Models

2.1   Assumptions

Here are our assumptions:

- Under an ideal environment, which means that the temperature is perfect and the food is sufficient, the decomposition rate of fungis is mainly related to the extension rate and the moisture trade-off.

- The decomposition rate has a linear relationship with extension rate.

- The logarithm of decomposition rate has a linear relationship with moisture trade-off.

- If the environment is not so perfect, we introduce two parameters to adjust the decomposition rate—temperature and fungi's proportion.

With such condition, we can conclude two partial differential equations:

3   The Models

4   Strengths and weaknesses

4.1   Strengths

[1]

References

[1] Robert R Bush and Frederick Mosteller. A mathematical model for simple learning. In *Selected Papers of Frederick Mosteller*, pages 221–234. Springer, 2006.

Appendices

Appendix A   First appendix

Here are simulation programmes we used in our model as follow.

Input matlab source:

```matlab
function [t,seat,aisle]=OI6Sim(n,target,seated)
pab=rand(1,n);
for i=1:n
    if pab(i)<0.4
        aisleTime(i)=0;
    else
        aisleTime(i)=trirnd(3.2,7.1,38.7);
    end
end
```

Appendix B   Second appendix

some more text **Input C++ source:**

```cpp
//========================================================================
// Name        : Sudoku.cpp
// Author      : wzlf11
// Version     : a.0
// Copyright   : Your copyright notice
// Description : Sudoku in C++.
//========================================================================

#include <iostream>
#include <cstdlib>
#include <ctime>

using namespace std;

int table[9][9];

int main() {

    for(int i = 0; i < 9; i++){
        table[0][i] = i + 1;
    }

    srand((unsigned int)time(NULL));

    shuffle((int *)&table[0], 9);

    while(!put_line(1))
    {
        shuffle((int *)&table[0], 9);
```

```cpp
    }

    for(int x = 0; x < 9; x++){
        for(int y = 0; y < 9; y++){
            cout << table[x][y] << " ";
        }

        cout << endl;
    }

    return 0;
}
```