VBA Final Project Report

Introduction:

We bear in mind the ease of use for our user, namely, the Dispatch Manager, when writing the VBA code. Also we make sure that all specifications are met.

**Part1. Inputting**

Every day the Manager gets 2 major information:

* The number of items to be picked up at each warehouse
* The number of available trucks of each type and their capacity

So we decided that the Macro should only require the Manager to input 2 numbers: The number of types of trucks and the number of warehouses.

Then for the Manager’s convenience, the Macro will automatically generate titles in the worksheet and instruct the Manager to input further information about the available items for each warehouse and the capacity of each type of truck.

**Part2.** **Outputting**

The Manager want to get the following results:

* For each warehouse, the number of items picked up from and left at
* How the fleet of each type of truck is used( Where to go and how many to send)

We figured that a table with Rows referring to Warehouses and Columns referring to all types of trucks would meet the need.

So we decided that the solution be presented in the form of a table. Inside the table are the number of trucks to send to each warehouse.

How does the manager know where to send and which type of truck to use?

* By referring to the row titles, the manager will know where to send the trucks
* By referring to the column titles, the manager will get to know which type of truck to use.

Above all, for the user’s ease of reference, the macro puts the optimal solution at a separate cell and the remaining items at each warehouse in a separate column.

In short, we make sure the results are displayed to the user in a way that is clean and concise.

**Part3.Proceccing**

The optimization problem will eventually be solved by Solver Function in Excel. In order for Excel to do this, it needs to know the following data:

* A single Cell for the objective function value
* All the Right-hand-sides and Left-hand-sides of the model(According to solution Model.3)

So the process is boiled down to 3 major parts:

1. Getting Data
2. Putting all right-hand-sides and left-hand-sides in the excel worksheet properly
3. Sit back and let solver do the rest

**User Guidance:** Click button Start and input data, then click Continue to get the solution.

For more details about the Macro, please refer to our PPT.