Hindustan

Institute of Technology & Science

OBJECT OREINTED ANALYSIS AND DESIGN

ASSIGNMENT-2

Submitted To:

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Problem: *Consider the following scenario and perform the three step incremental and iterative unified process for extracting the entity class, boundary class and control class models using Functional model, Dynamic model and Class model of the Elevator Problem Case Study.*

A product is to be installed to control n elevators in a building with m floors. The problem concerns the logic required to move elevators between floors according to the following constraints:

1. Each elevator has a set of m buttons, one for each floor. These illuminate when pressed and cause the elevator to visit the corresponding floor. The illumination is cancelled when the corresponding floor is visited by the elevator.

2. Each floor, except the first and the top floor, has two buttons, one to request an up-elevator, one to request a down-elevator. These buttons illuminate when pressed. The illumination is cancelled when an elevator visits the floor, then moves in the desired direction

3. If an elevator has no requests, it remains at its current floor with its doors closed

Answer:

Noun Extraction
Stage: 1)

Statements in single paragraph:

Buttons in elevators and on the floors control the movement of n elevators in a building with m floors. Buttons illuminate when pressed to request the elevator to stop at a specific floor; the illumination is cancelled when the request has been satisfied. When an elevator has no requests, it remains at its current floor with its doors closed

Stage: 2:

Noun Extraction:

 Buttons in elevators and on the floors control the movement of n elevators in a building with m floors. Buttons illuminate when pressed to request the elevator to stop at a specific floor; the illumination is cancelled when the request has been satisfied. When an elevator has no requests, it remains at its current floor with its doors closed

Nouns:
Button, elevator, floor, movement, building, illumination, request, door

Abstract nouns (unlikely to be entity classes):
Floor, building, door are outside the problem boundary

Attributes (unlikely):
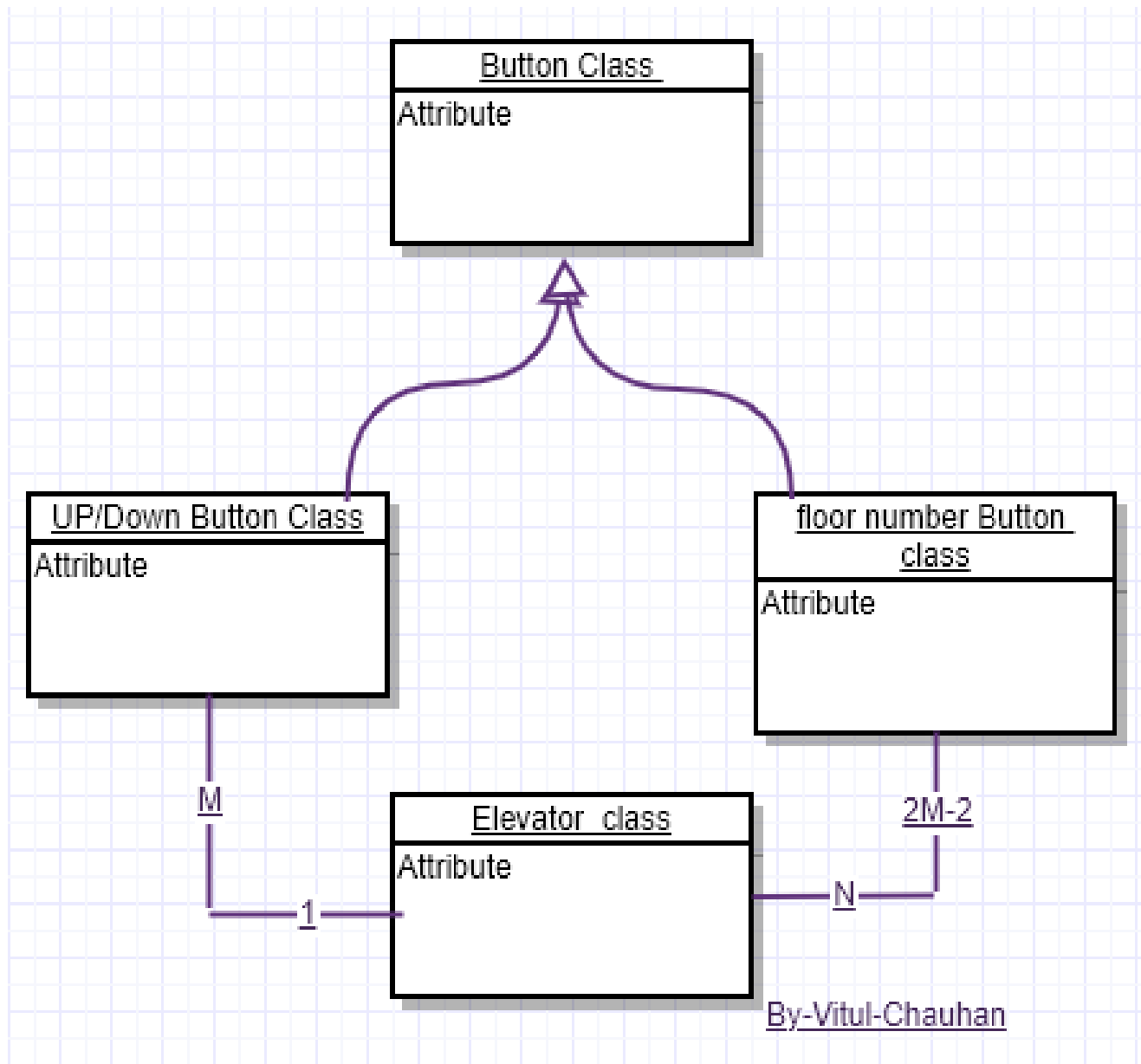 Movement, illumination, request are abstract

Candidate classes:
 Elevator Class and Button Class

Subclasses:
 Elevator Button Class and Floor Button Class

First Iteration (class Diagram):

Button Class
Attribute

UP/Down Button Class
Attribute

floor number Button class
Attribute

Elevator class
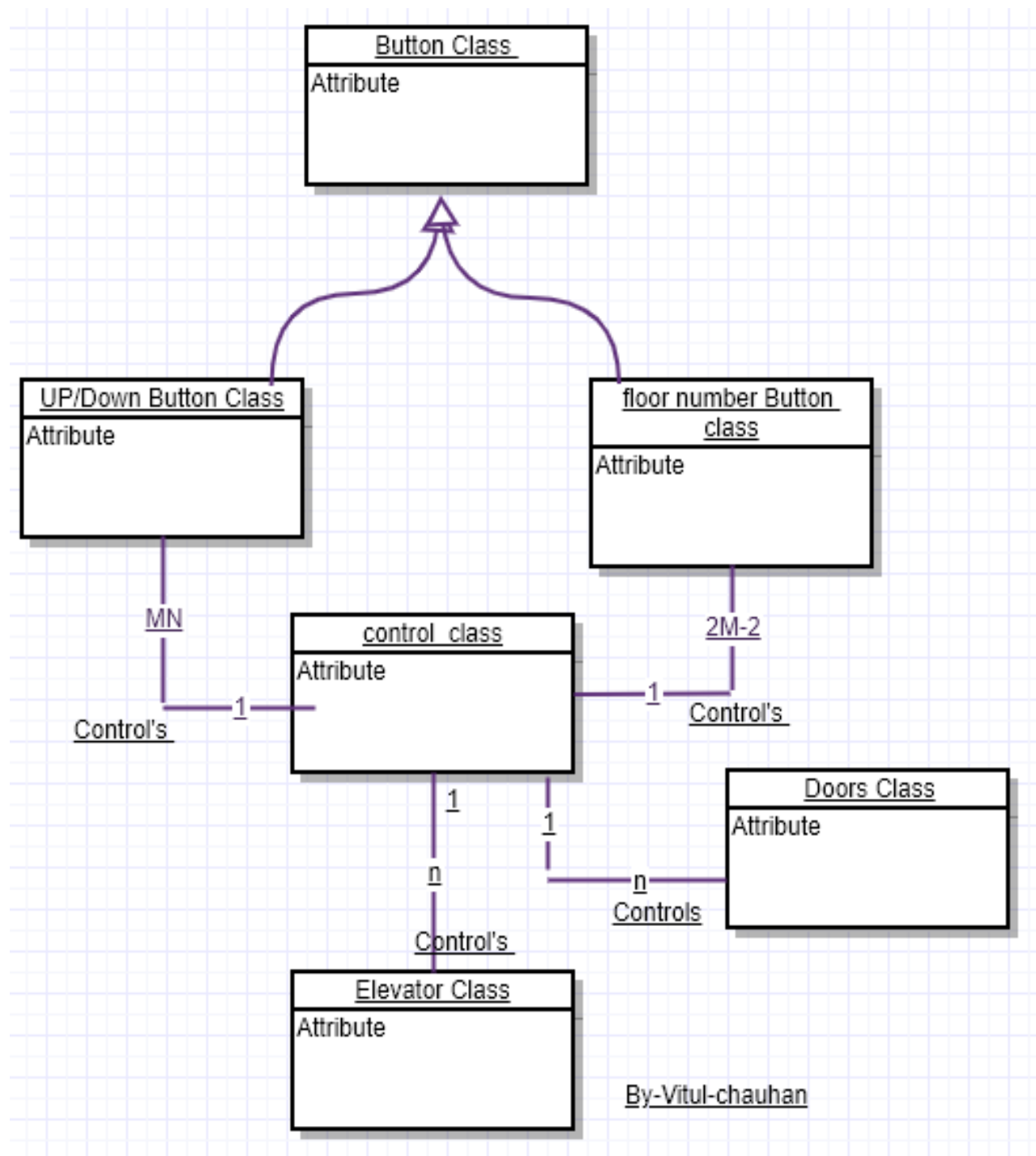Attribute

M

2M-2

1

N

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Second Iteration (Class Diagram):

Here we are adding one more class to control elevator that is control class. Because user button didn't directly gave instruction to the elevator
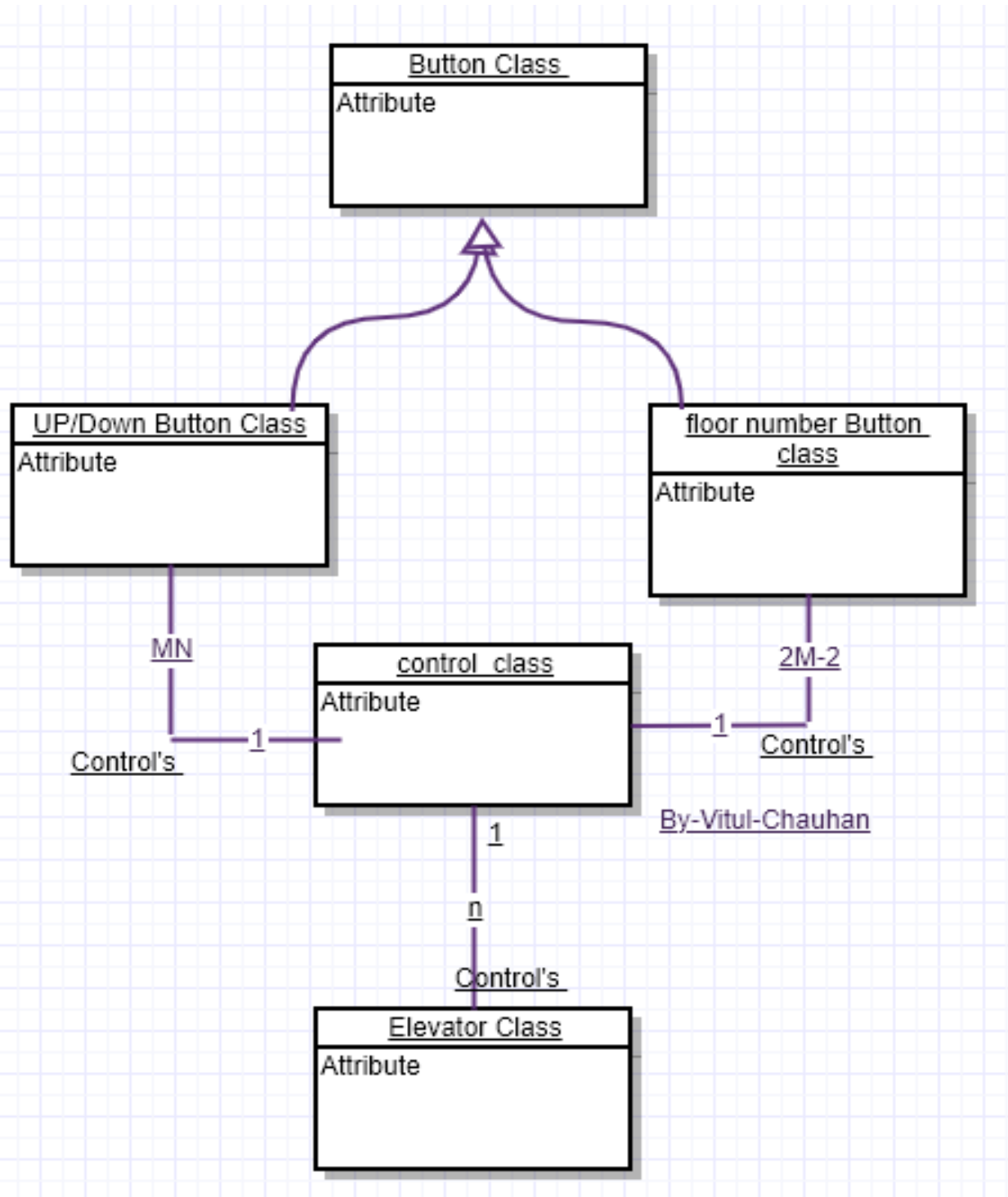
Third Iteration (Class Diagram):

Here we are adding one more class name doors:

…..Thank you mam…..

……..(< >)…..END……..(' .')……