Exercises - Section 2: Lecture 13 – Dealing with Roundoff Error - Questions

Consider the following variable definitions:

MATH	GUROBIPY
x_i is binary for $i = 0,1,\ldots,9$	`x = m.addVars(10, vtype=gp.GRB.BINARY)`
$y_i \geq 0$ and integer for $i = 0,1,\ldots,9$	`y = m.addVars(10, vtype=gp.GRB.INTEGER)`
$z_i \geq 0$ for $i = 0,1,\ldots,9$	`z = m.addVars(10, vtype=gp.GRB.CONTINUOUS)`

Write a gurobipy `if` statement that will act like each of the following mathematical "if" statements when finding values of variables after gurobipy has solved the model (e.g., if you want to print all of the variables that have a certain value in the solution). Account for the possibility of roundoff error.

1. If the value of variable x_i is 1

2. If the value of variable y_i is greater than or equal to 4

3. If the value of variable y_i is equal to 4

4. If the value of variable z_i is greater than or equal to 4

NOTES: