Set for Team 44

Construct the necessary truth table(s), Boolean functions and Simulation file with the appropriate IC diagram comprising the basic logic gates that represent the following scenario:

Suppose you have gone for buying a set of new furniture for your bed room. You wish to pick a study table, **AND** two set of couches **OR** a study table, **AND** a shelf, **OR** a study table **AND** a cool desk chair; whichever fits your budget accordingly. If the possibility of buying/not-buying of the study table, couch, shelf, and desk chair can be represented as 0/1 Boolean values, construct a truth table that represents the aforementioned scenario with an output **Y** which indicates whether you are buying the set of furniture or not. After that, bring a combinational circuit function from the truth table. (N.B. Do not bother about the quantity of any item)