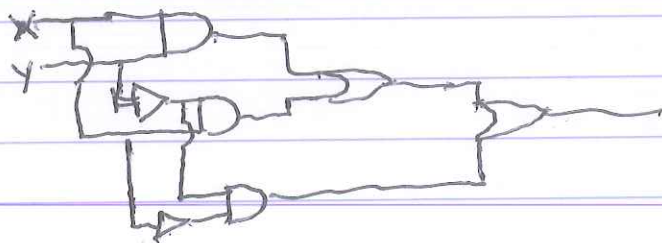


MA 1126

Assignment 2.

1. Simplify the logic circuit



2. Find the best conclusion using all the hypotheses

(a) No theorem is important unless we are certain it is true

(b) In Isaac Newton's works, the proofs are all based on intuition.

(c) If the proof of a theorem is not rigorous, we cannot be sure that the theorem is true

(d) a first class mathematician proves at least one important theorem

(e) A rigorous proof cannot use inductive arguments.

3. Is $(p \rightarrow q) \wedge (q \rightarrow r) \rightarrow (p \rightarrow r)$ a valid argument? Do the T/F table.

4. Translate the argument into symbolic form and determine whether it is valid.

Lewis Carroll

No birds except ostriches are 9 ft high.

There are no birds here that belong to anyone but me.

No ostrich lives on mince pies.

I have no birds less than 9 ft high.

Therefore no bird here lives on mince pies.

5. Write the disjunctive normal form from the table and then simplify it.

X	Y	Z	output
1	1	1	1
1	1	0	1
1	0	1	0
1	0	0	0
0	1	1	1
0	1	0	0
0	0	1	1
0	0	0	0