

Norbert Blum

Complexity of Boolean functions

SS 2019

Homework 3

17.04.2019

Exercise 1:

Consider the situation described at Page 40 of the lecture notes. Prove the following assertion. If there exist p and q such that h_p and g_q depend on x_i then the network β contains a cycle.

Exercise 2:

Finish the proof of Subcase 3.2.

Exercise 3:

In the proof of Lemma 2.6, we have chosen $i, j \in S'$ such that a certain property is fulfilled (Page 47 of the lecture notes). Show that such a choice is possible.

Exercise 4:

Prove Lemma 2.9 of the lecture.