CFG with Analysis Result for example

1
history -> N, passing -> O, math -> O, english -> N, bonus -> O

2
history -> N, passing -> O, math -> O, english -> N, bonus -> O
english = input()
history -> N, passing -> O, math -> O, english -> N, bonus -> O
math = input()
history -> N, passing -> O, math -> U, english -> N, bonus -> O
history = input()
history -> N, passing -> O, math -> U, english -> N, bonus -> O
bonus = input()
history -> N, passing -> O, math -> U, english -> N, bonus -> U
passing = True
history -> N, passing -> U, math -> U, english -> N, bonus -> U

IF_IN: not(english)

not(not(english))

3
history -> N, passing -> U, math -> U, english -> N, bonus -> U I history -> N, passing -> S, math -> S, english -> N, bonus -> S
english = False
history -> N, passing -> U, math -> U, english -> N, bonus -> U I history -> N, passing -> S, math -> S, english -> N, bonus -> S

IF_OUT

5
history -> N, passing -> U, math -> U, english -> N, bonus -> U

IF_IN: not(math)

not(not(math))

4
history -> N, passing -> U, math -> U, english -> N, bonus -> U I history -> N, passing -> O, math -> S, english -> N, bonus -> U
passing = or(False, bonus)
history -> N, passing -> U, math -> U, english -> N, bonus -> U I history -> N, passing -> S, math -> S, english -> N, bonus -> S

IF_OUT

7
history -> N, passing -> U, math -> U, english -> N, bonus -> U

IF_IN: not(math)

not(not(math))

6
history -> N, passing -> U, math -> N, english -> N, bonus -> N I history -> N, passing -> O, math -> N, english -> N, bonus -> U
passing = or(False, bonus)
history -> N, passing -> U, math -> N, english -> N, bonus -> N I history -> N, passing -> S, math -> N, english -> N, bonus -> N

IF_OUT

8
history -> N, passing -> U, math -> N, english -> N, bonus -> N
print(passing)
history -> N, passing -> N, math -> N, english -> N, bonus -> N

9
history -> N, passing -> N, math -> N, english -> N, bonus -> N