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import itertools

def pl_true(sentence, model):
    A = model.get('A', False)
    B = model.get('B', False)
    C = model.get('C', False)

    if sentence == "A or B":
        return A or B
    elif sentence == "(A or C) and (B or not C)":
        return (A or C) and (B or not C)
    return False

def tt_entails(kb, alpha):
    symbols = ['A', 'B', 'C']
    return tt_check_all(kb, alpha, symbols, {})

def tt_check_all(kb, alpha, symbols, model):
    if not symbols:
        if pl_true(kb, model):
            return pl_true(alpha, model)
        else:
            return True
    else:
        p = symbols[0]
        rest = symbols[1:]
        model_true = model.copy()
        model_false = model.copy()
        model_true[p] = True
        model_false[p] = False

        return (tt_check_all(kb, alpha, rest, model_true) and
                tt_check_all(kb, alpha, rest, model_false))

kb = "(A or C) and (B or not C)"
alpha = "A or B"

result = tt_entails(kb, alpha)
print(f"KB entails  $\alpha$ : {result}\n")

def generate_truth_table():
    print(f"{'A':<10}{'B':<10}{'C':<10}{'AvC':<10}{'Bv~C':<10}{'KB':<10}{' $\alpha$  (AvB)':<10} Highlight")

    for A, B, C in itertools.product([False, True], repeat=3):
        A_or_C = A or C
        B_or_not_C = B or not C
        KB = (A or C) and (B or not C)
        alpha = A or B
        highlight = "*" if KB and alpha else "" # Mark rows where KB and  $\alpha$  are both True
        print(f"{str(A):<10}{str(B):<10}{str(C):<10}{str(A_or_C):<10}{str(B_or_not_C):<10}{str(KB):<10}{str(alpha):<10} {highlight}")

generate_truth_table()

```

**KB entails  $\alpha$ : True**

[illegible]