Boolean Logic : Nethack

Nethack is a dungeon exploration game where you (the '@') are searching for the Amulet of Yendor, fighting monsters and gathering treasure on the way.

One of the monsters in the dungeon is a cockatrice, which can petrify you (turn you to stone) if you touch it.

Here is some of the logic used in the game to determine if you are turned to stone.

How to be petrified by a cockatrice:

\[
\text{Petrify} = (\text{HandAttack AND NOT Gloves}) \\
\text{OR (Kick AND NOT Boots}) \\
\text{OR (Headbutt AND NOT Helmet}) \\
\text{OR (Hug AND NOT (Gloves AND Cloak))} \\
\text{OR (Bite OR Sting OR SuckBrain OR Swallow)}
\]

How to be petrified by a cockatrice corpse:

\[
\text{Petrify} = \text{Eat} \\
\text{OR HitBy} \\
\text{OR ((NOT Gloves) AND (PickUp OR Wield OR Throw))} \\
\text{OR (Gloves AND Wield AND (Fall OR DestroyGloves OR (Burdened AND Stairs)))} \\
\text{OR (Kick AND (NOT Boots))} \\
\text{OR (Blind AND (NOT Gloves) AND MoveInto AND (NOT Levitating))}
\]

Bite = you bite the cockatrice (while you are polymorphed into a monster (like a jabberwock or a giant beetle) that can bite)

Blind = you are blind

Boots = you are wearing boots

Burdened = you are burdened (carrying too much)

Cloak = you are wearing a cloak

DestroyGloves = your gloves are destroyed (by a Destroy Armor spell, or by being over-enchanted)

Eat = you eat the cockatrice

Fall = you fall down a pit, hole, trapdoor or chasm

Gloves = you are wearing gloves

HandAttack = you attack the cockatrice with your hands

HitBy = you are hit by another monster wielding the cockatrice as a weapon

Helmet = you are wearing a helmet

Headbutt = you headbutt the cockatrice (while you are polymorphed into a monster (like a minotaur or a unicorn) that can headbutt)

Hug = you hug or crush the cockatrice (while you are polymorphed into a monster (like an owlbeor or a guardian naga) that can hug/crush)

Kick = you kick the cockatrice

Levitating = you are levitating

MoveInto = walk/move into same space as cockatrice

PickUp = you pick up the cockatrice

Stairs = you are going down stairs

Sting = you sting the cockatrice (while you are polymorphed into a monster (like a killer bee) that can sting)

SuckBrain = you suck the brain of the cockatrice with your tentacles (while you are polymorphed into a brain-sucking tentacled monster like a mind flayer)

Swallow = you swallow the cockatrice (while you are polymorphed into a monster (like a purple worm) that can attack other monsters by swallowing them)

Throw = you throw the cockatrice

Wield = you are wielding the cockatrice as a weapon