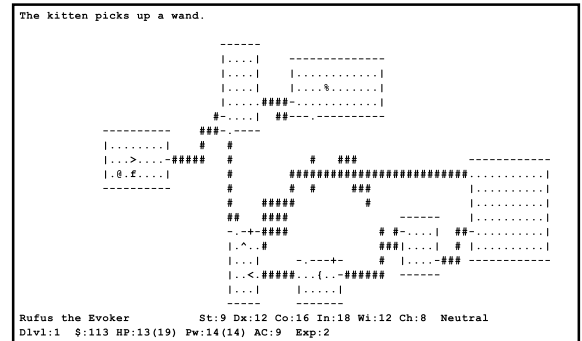# Boolean Logic : Nethack

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.

```
The kitten picks up a wand.
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         Rufus the Evoker        St:9 Dx:12 Co:16 In:18 Wi:12 Ch:8  Neutral
         Dlvl:1  $:113 HP:13(19) Pw:14(14) AC:9  Exp:2
```

How to be petrified by a cockatrice:

Petrify = (**HandAttack** AND (NOT **Gloves**))
OR (**Kick** AND (NOT **Boots**))
OR (**Headbutt** AND (NOT **Helmet**))
OR (**Hug** AND (NOT (**Gloves** AND **Cloak**)))
OR (**Bite** OR **Sting** OR **SuckBrain** OR **Swallow**)

How to be petrified by a cockatrice corpse:

Petrify = **Eat**
OR **HitBy**
OR ((NOT **Gloves**) AND (**PickUp** OR **Wield** OR **Throw**))
OR (**Gloves** AND **Wield** AND (**Fall** OR **DestroyGloves** OR (**Burdened** AND **Stairs**)))
OR (**Kick** AND (NOT **Boots**))
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 *owlbear* 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