

openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_0b276d34e8 (cnf\_v1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

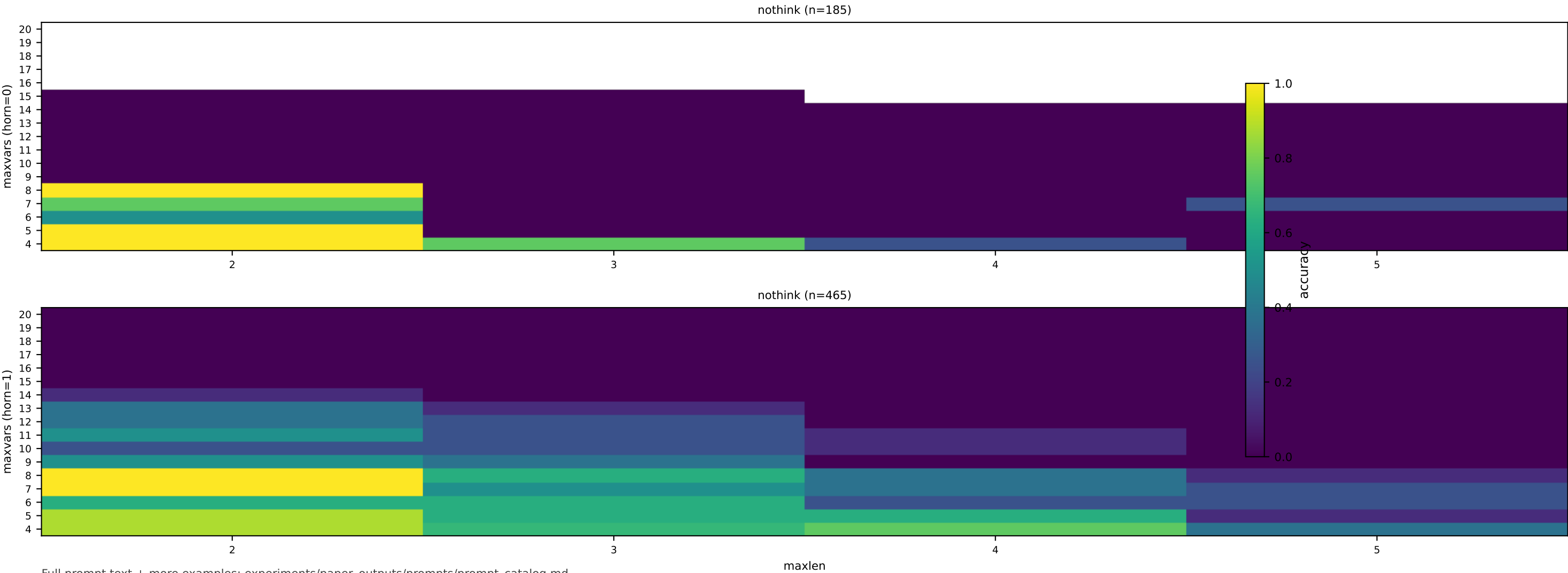
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

p4 is false.  
p2 is true.  
p3 is false or p1 is true.  
p3 is false or p4 is true.  
p2 is false or p1 is true.



openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_0b276d34e8 (cnf\_v1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

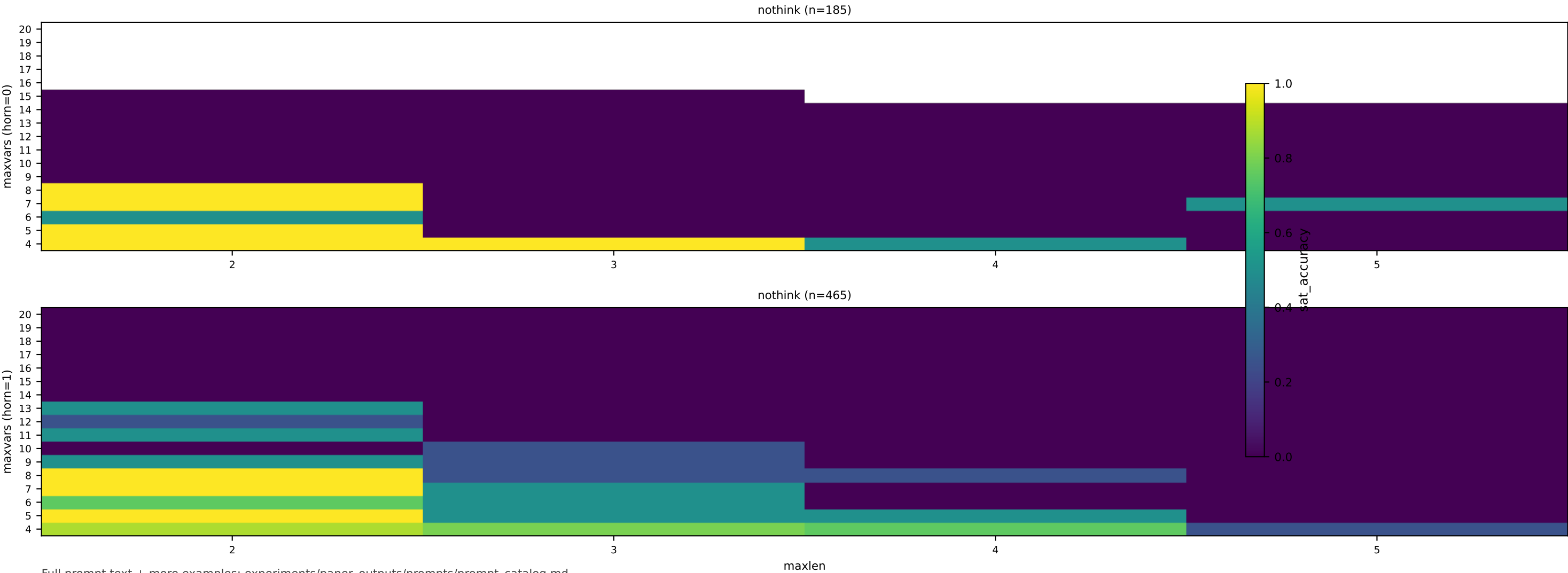
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

p4 is false.  
p2 is true.  
p3 is false or p1 is true.  
p3 is false or p4 is true.  
p2 is false or p1 is true.



openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_0b276d34e8 (cnf\_v1) Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

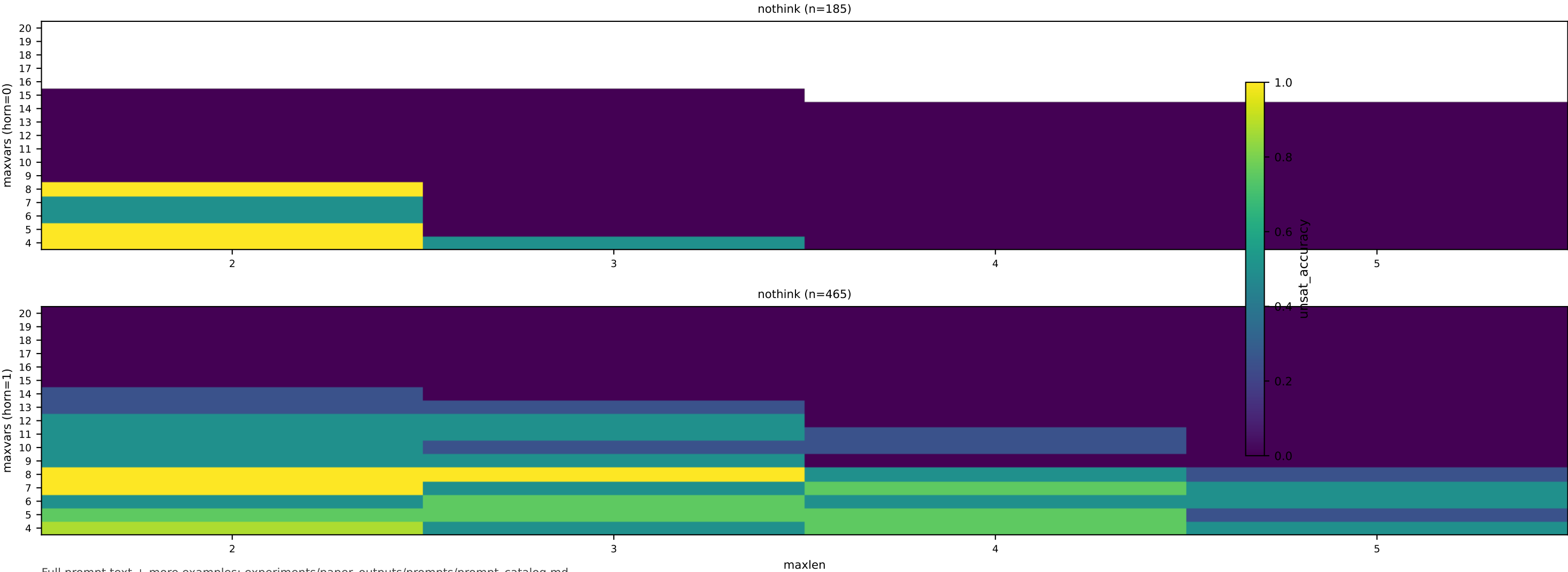
Choose the appropriate interpretation based on how the statements are rendered below.

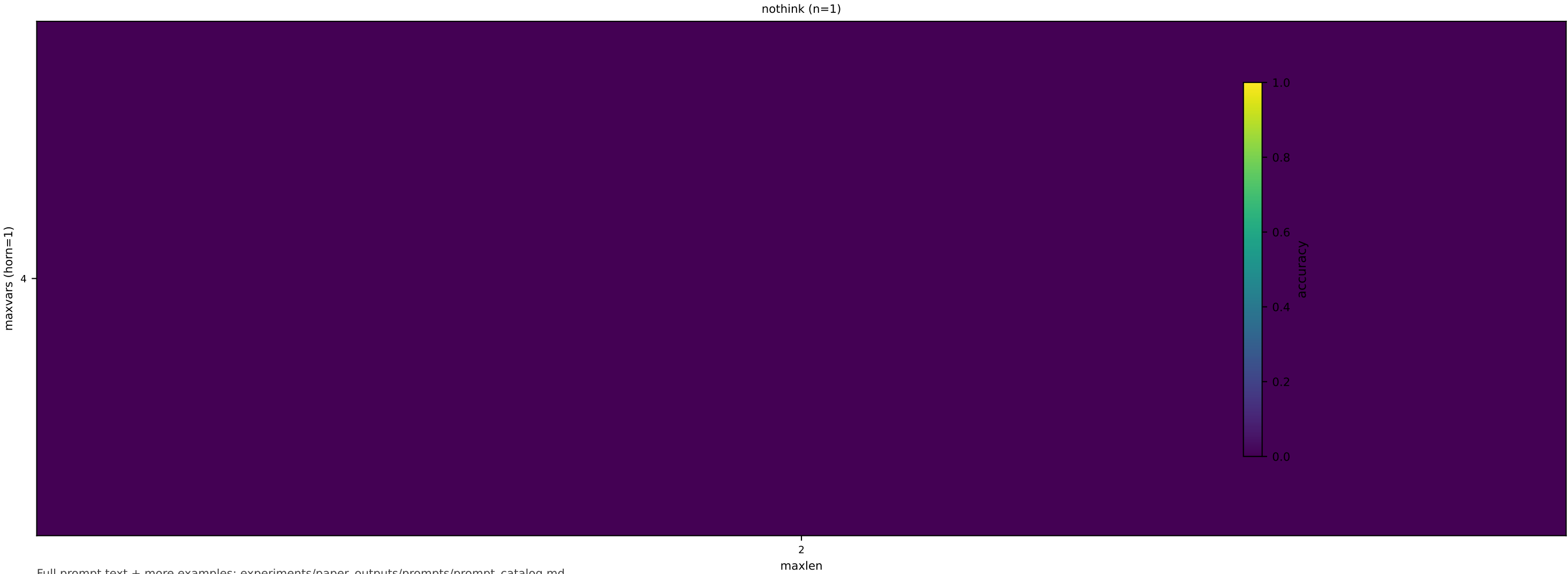
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

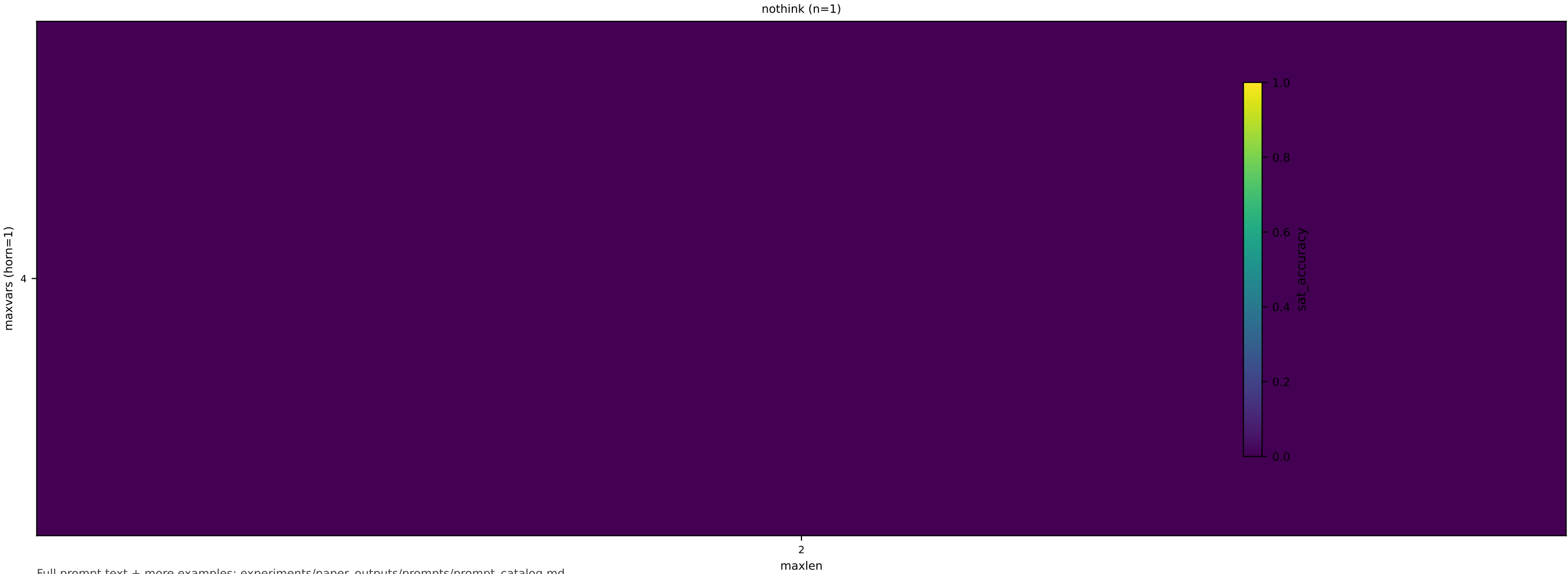
Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)  
p4 is false.  
p2 is true.  
p3 is false or p1 is true.  
p3 is false or p4 is true.  
p2 is false or p1 is true.





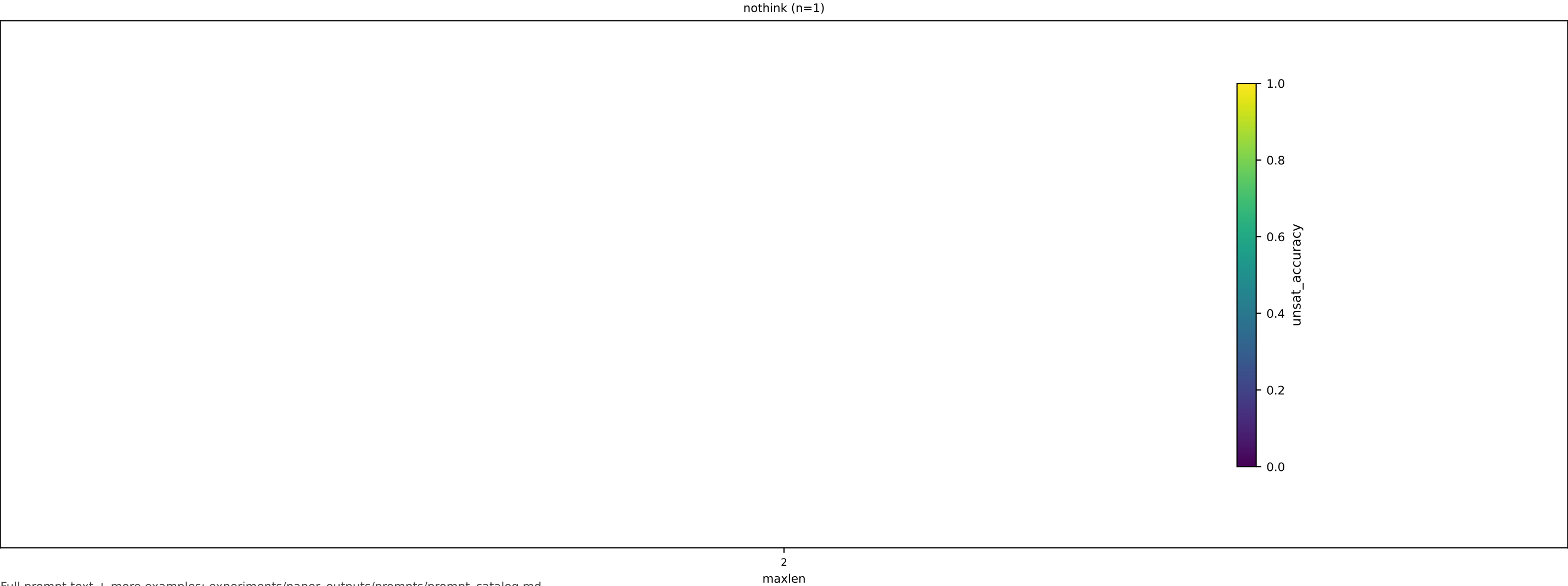
prompt\_template= | parse\_family=yes\_no

Instruction excerpt:  
(no instruction text found)



prompt\_template= | parse\_family=yes\_no

Instruction excerpt:  
no instruction text found



openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_21889a86a3 (cnf\_v1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

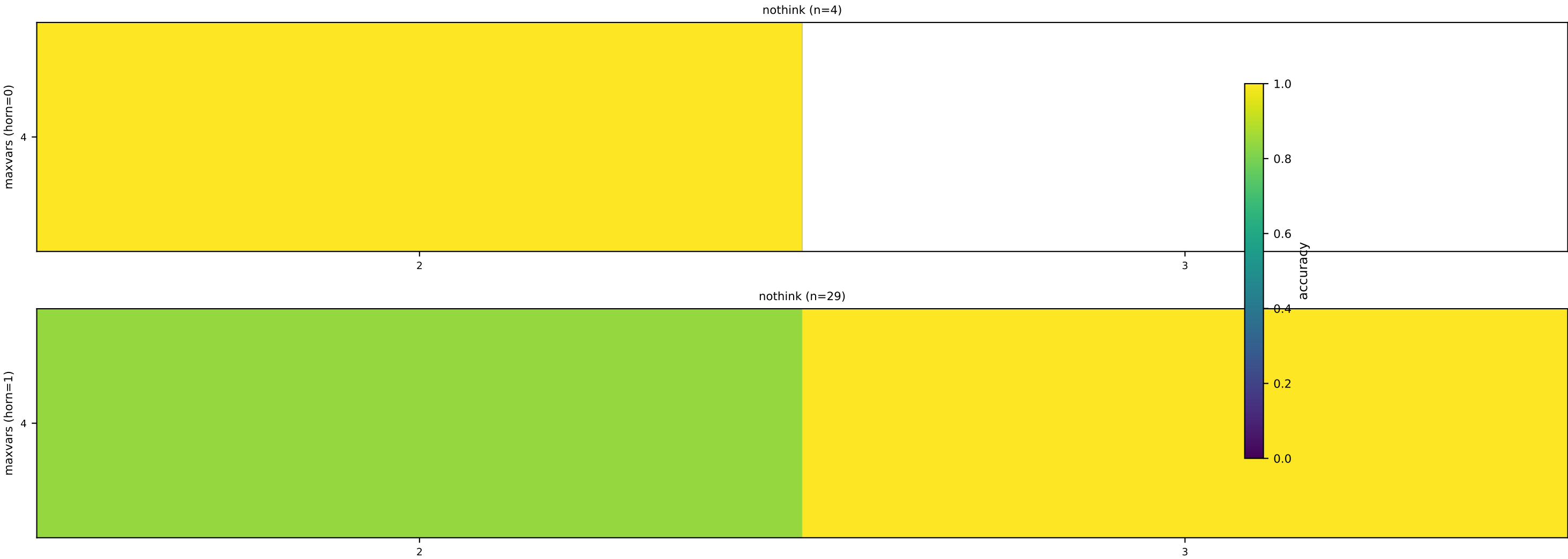
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

p4 is false.  
p2 is true.  
p3 is false or p1 is true.  
p3 is false or p4 is true.  
p2 is false or p1 is true.



openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_21889a86a3 (cnf\_v1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

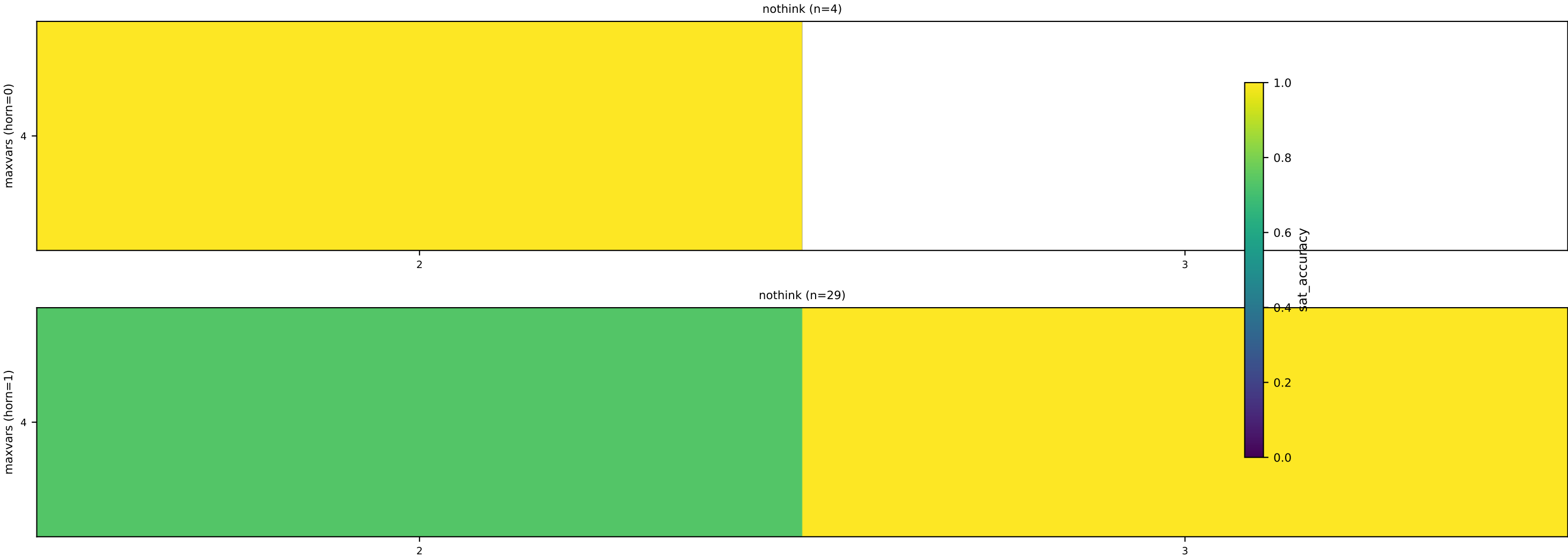
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

p4 is false.  
p2 is true.  
p3 is false or p1 is true.  
p3 is false or p4 is true.  
p2 is false or p1 is true.





openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_21889a86a3 (cnf\_v1) Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

**Instruction excerpt:**  
Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

p4 is false.  
p2 is true.  
p3 is false or p1 is true.  
p3 is false or p4 is true.  
p2 is false or p1 is true.



openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_2376d1fca7 (horn\_if\_then)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

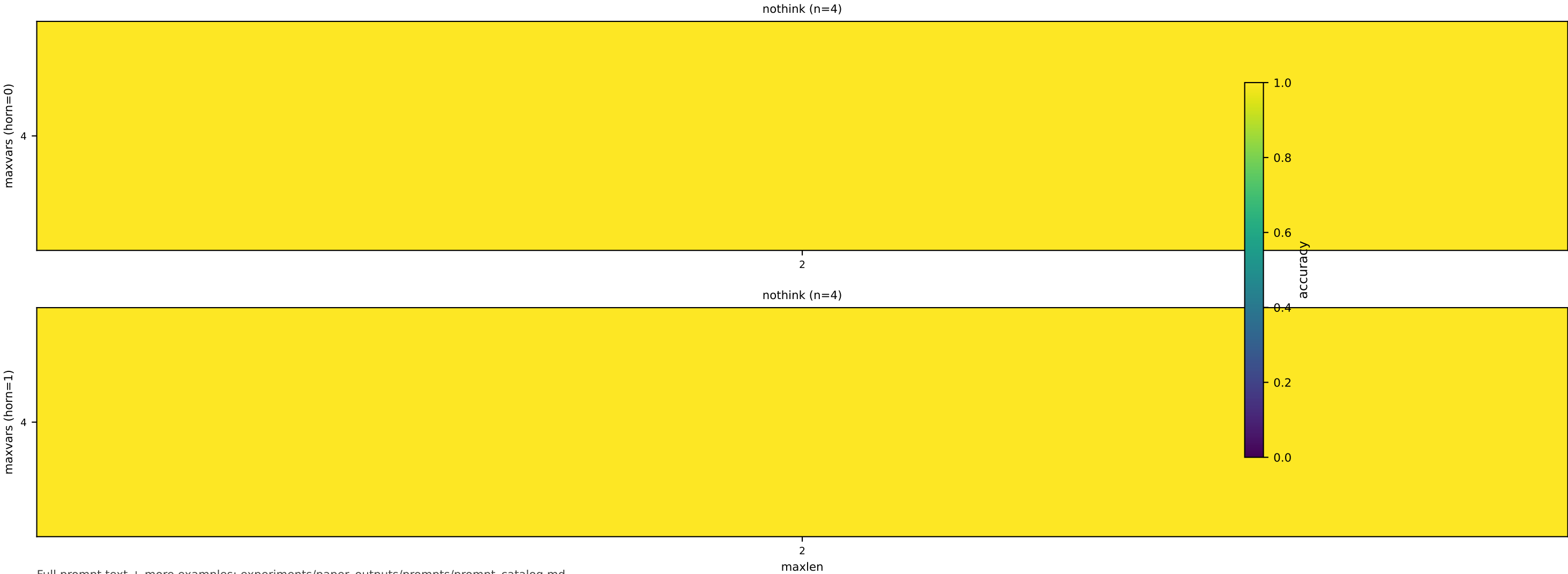
Unified answer rule (mixed cases)

- Regardless of how the statements are rendered, output only a final single word: "yes" if p0 is derivable OR the set is a contradiction; otherwise "no". Do not output any other words.

...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.



openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_2376d1fca7 (horn\_if\_then)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

**Instruction excerpt:**  
Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Unified answer rule (mixed cases)

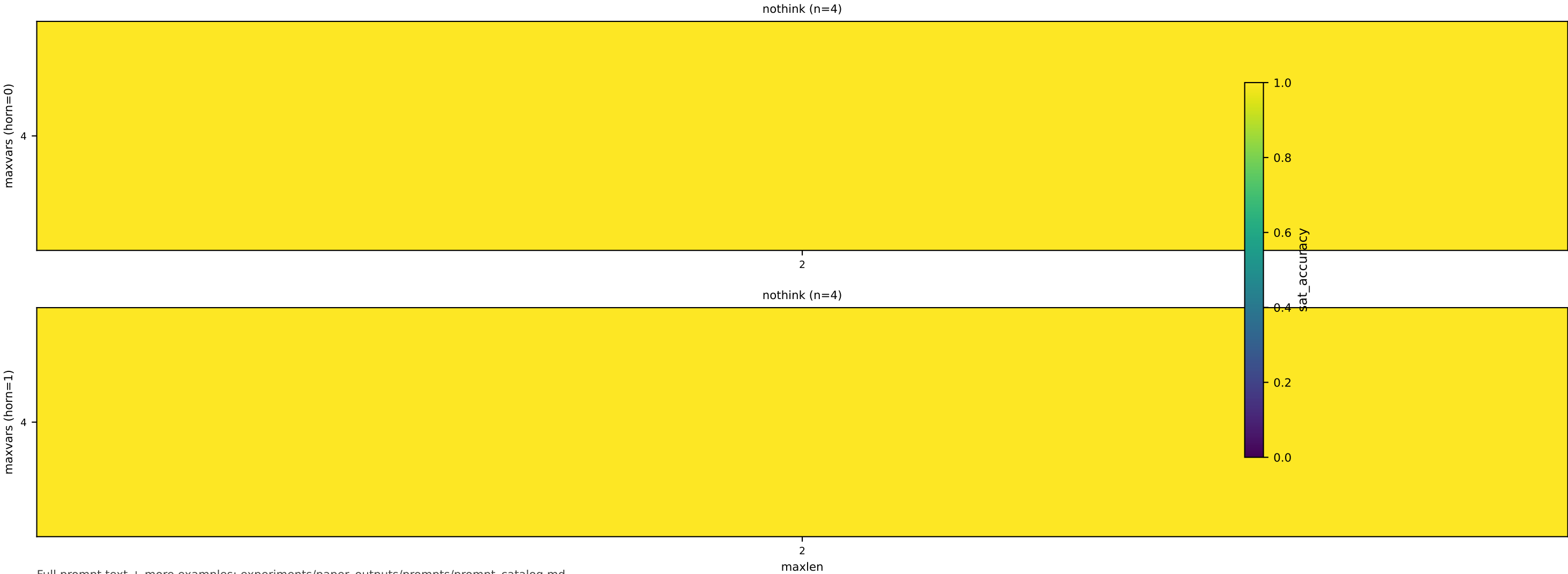
- Regardless of how the statements are rendered, output only a final single word: "yes" if p0 is derivable OR the set is a contradiction; otherwise "no".

Do not output any other words.

...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_2376d1fca7 (horn\_if\_then) — Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

**Instruction excerpt:**  
Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Unified answer rule (mixed cases)

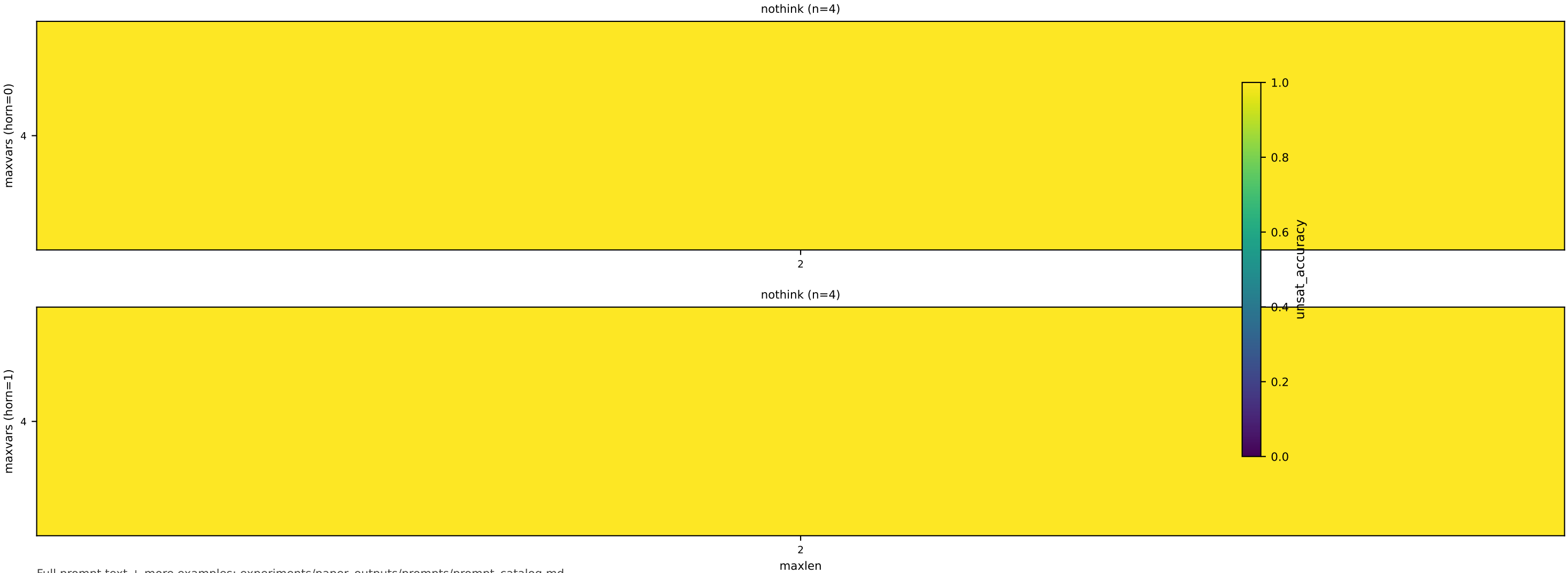
- Regardless of how the statements are rendered, output only a final single word: "yes" if p0 is derivable OR the set is a contradiction; otherwise "no".

Do not output any other words.

...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_2e9c5ccddf (cnf\_v2)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

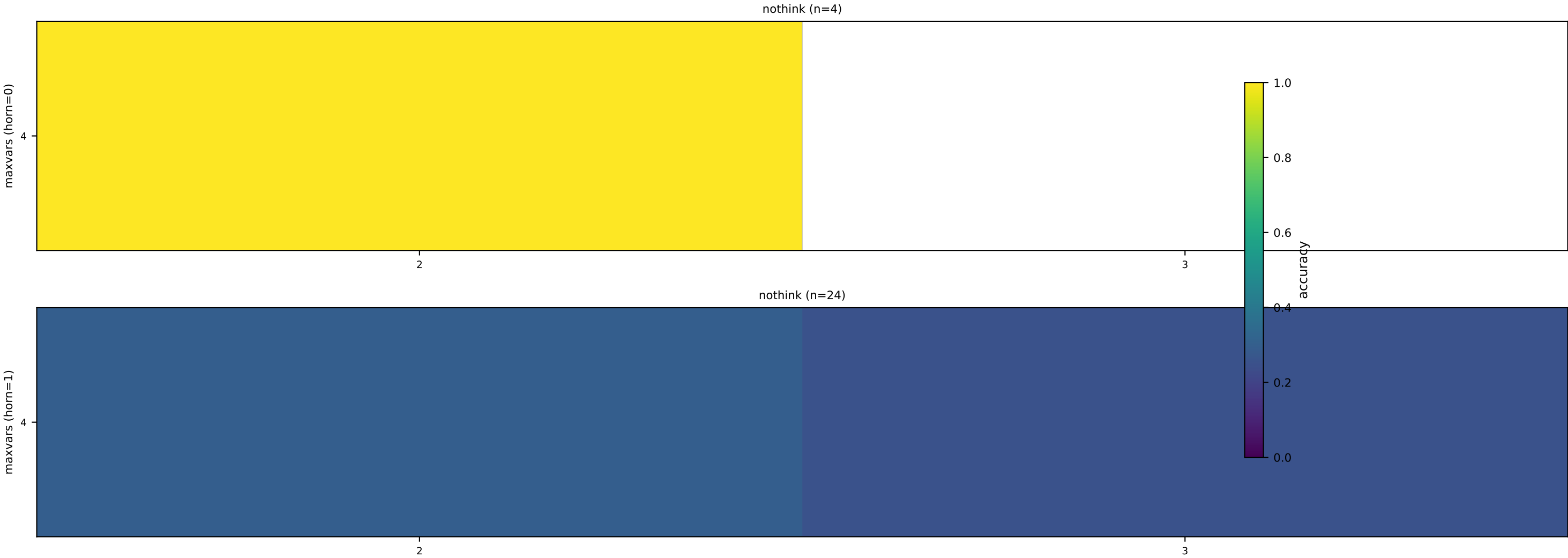
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

not(p4).  
p2.  
not(p3) or p1.  
not(p3) or p4.  
not(p2) or p1.



openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_2e9c5ccddf (cnf\_v2)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

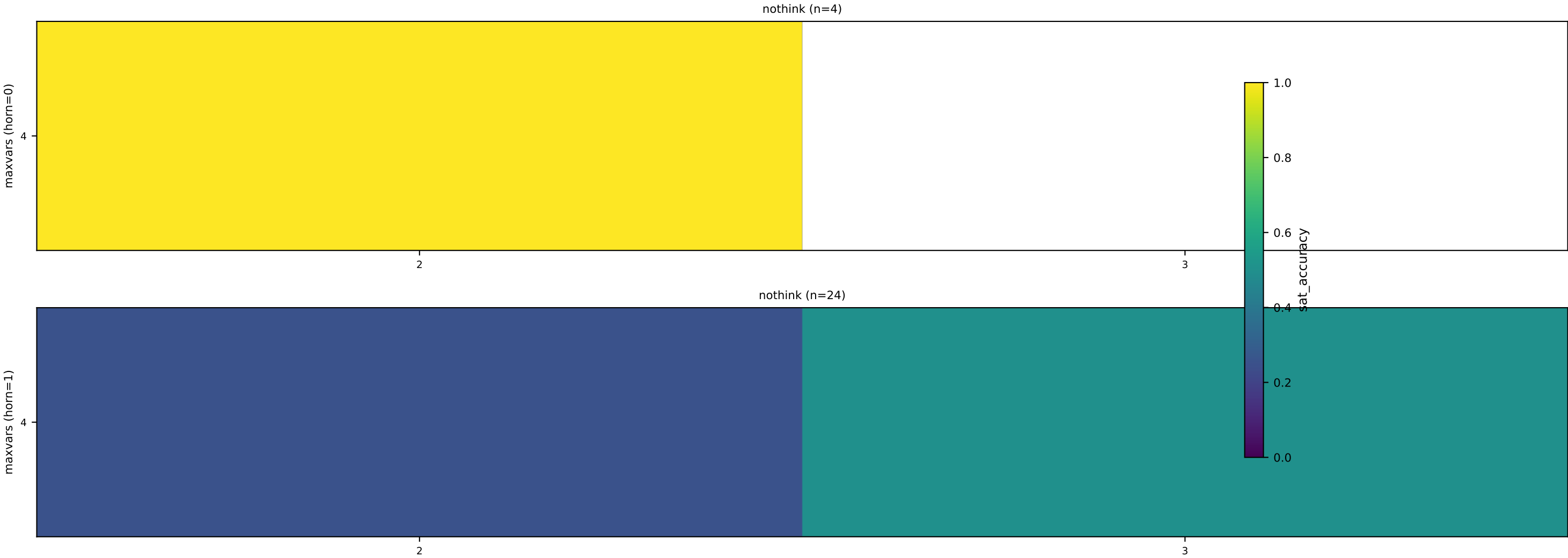
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

not(p4).  
p2.  
not(p3) or p1.  
not(p3) or p4.  
not(p2) or p1.



openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_2e9c5ccddf (cnf\_v2)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

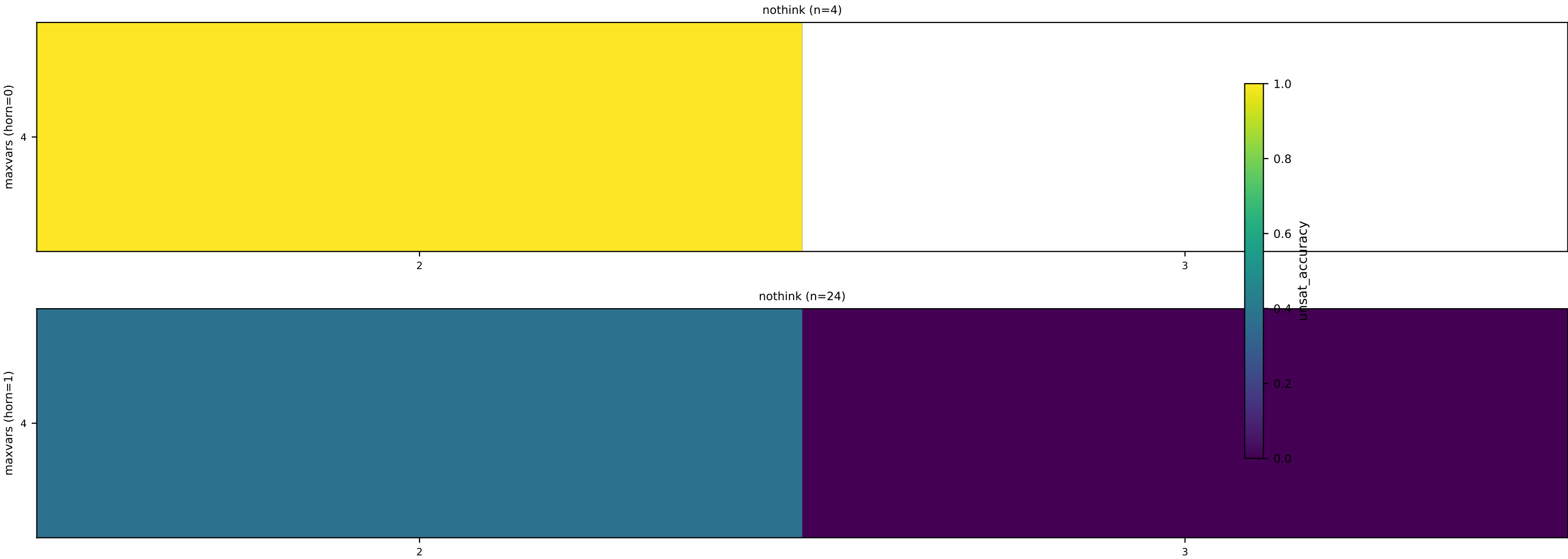
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
not(p4).
p2.
not(p3) or p1.
not(p3) or p4.
not(p2) or p1.
```



openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_62ba908560 (horn\_if\_then) Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Unified answer rule (mixed cases)

- Regardless of how the statements are rendered, output only a final single word: "yes" if p0 is derivable OR the set is a contradiction; otherwise "no". Do not output any other words.

...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

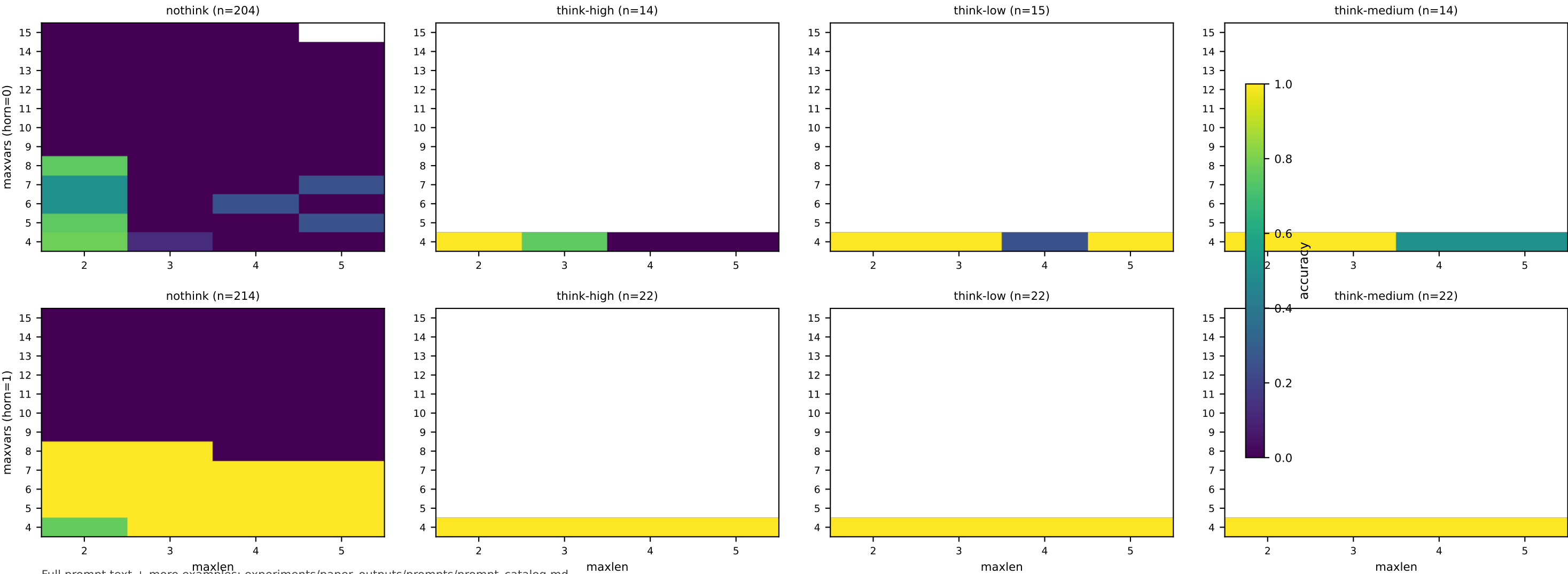
if p4 then p0.

p2.

if p3 then p1.

if p3 then p4.

if p2 then p1.





openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_62ba908560 (horn\_if\_then) Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

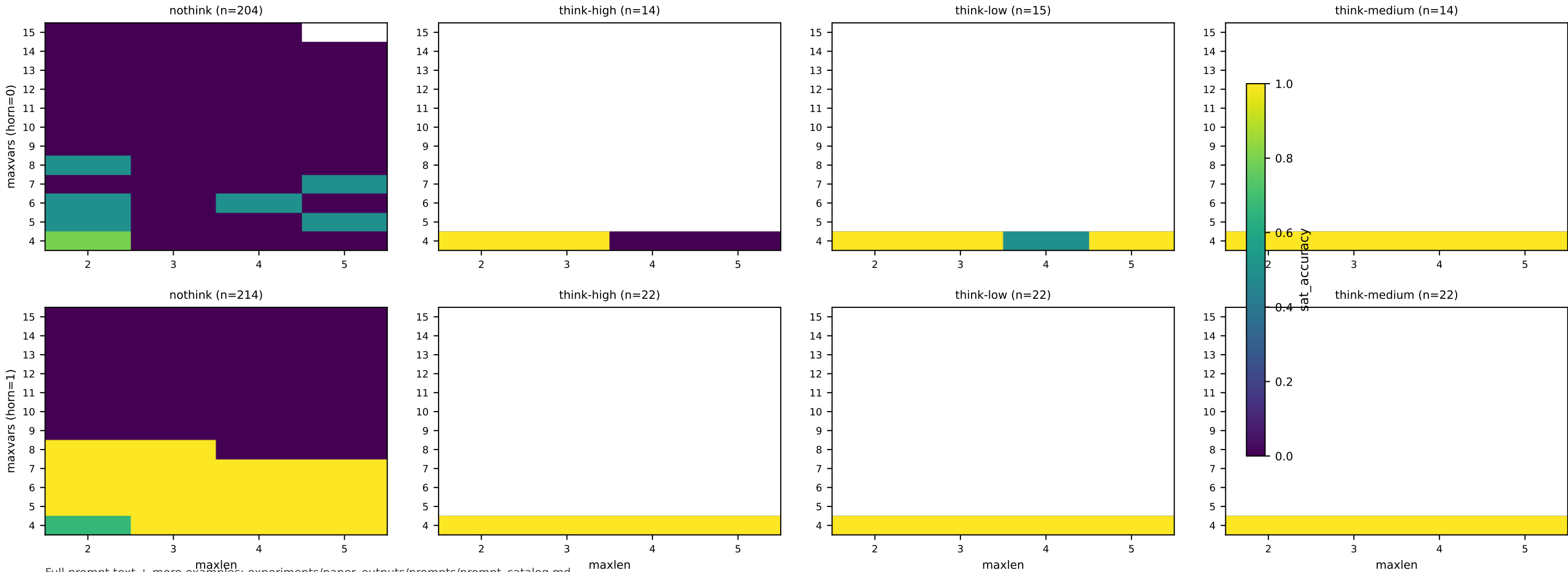
Unified answer rule (mixed cases)

- Regardless of how the statements are rendered, output only a final single word: "yes" if p0 is derivable OR the set is a contradiction; otherwise "no". Do not output any other words.

...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_62ba908560 (horn\_if\_then=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

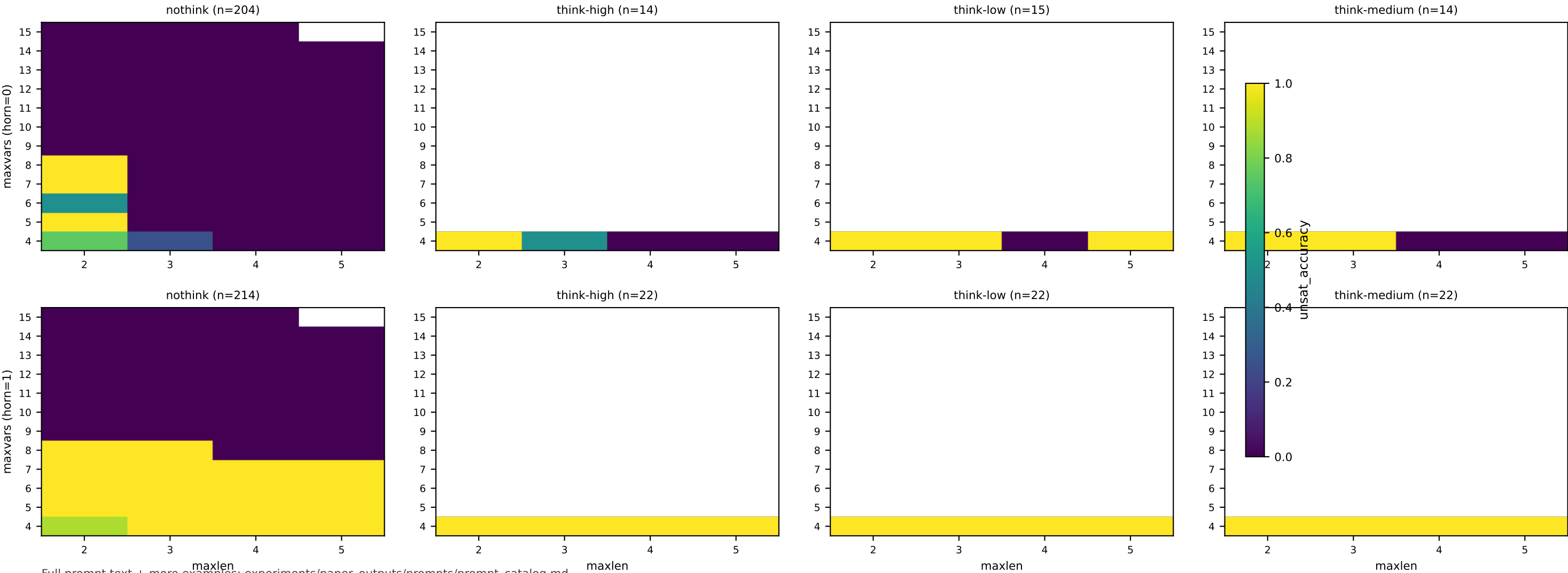
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Unified answer rule (mixed cases)

- Regardless of how the statements are rendered, output only a final single word: "yes" if p0 is derivable OR the set is a contradiction; otherwise "no". Do not output any other words.

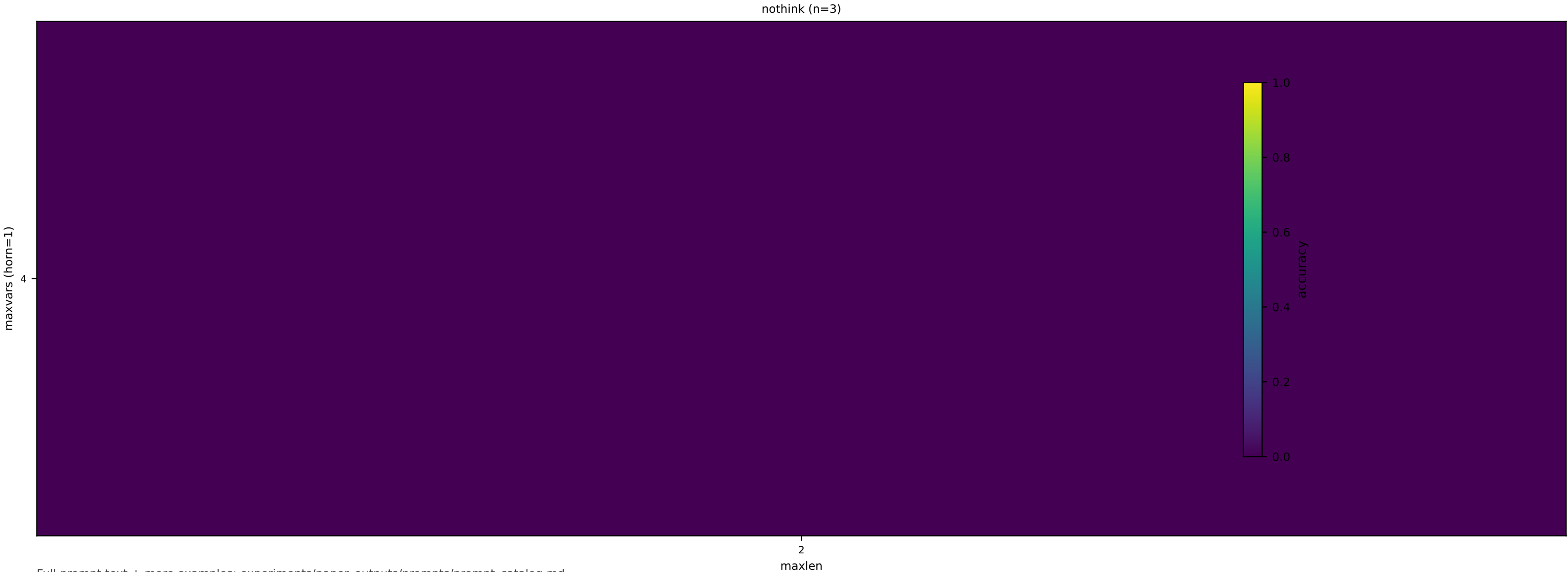
...

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



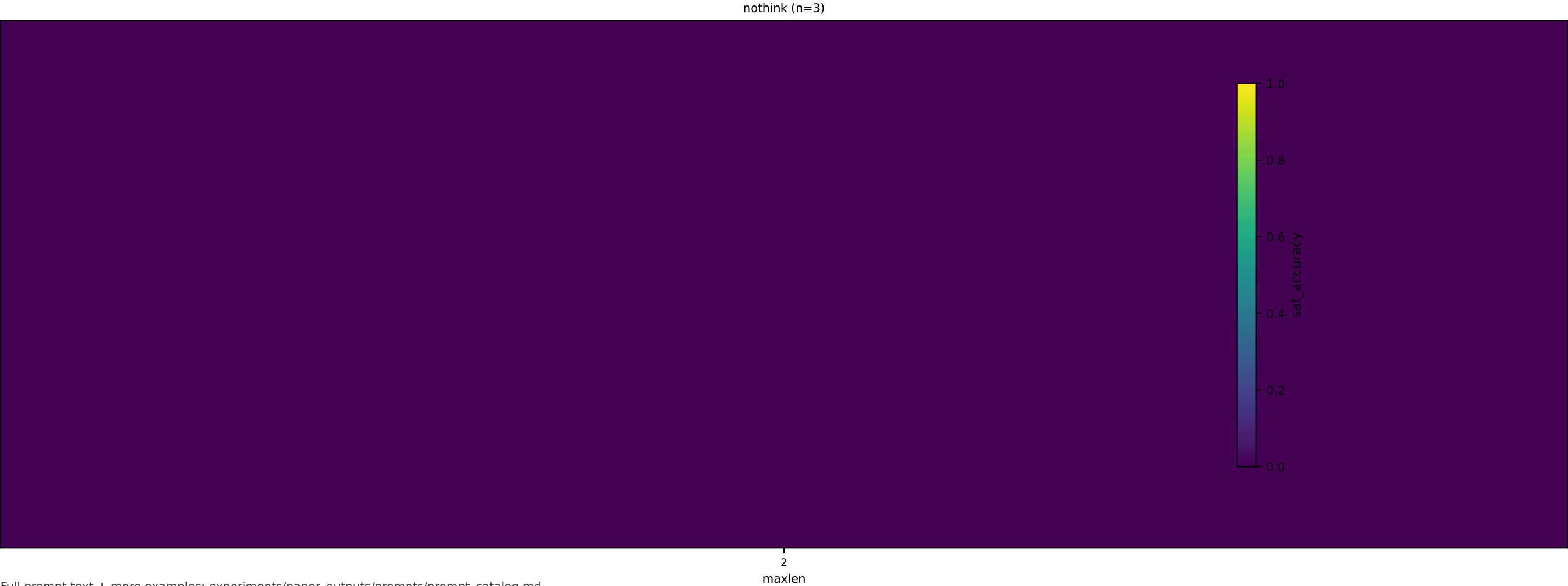
prompt\_template= | parse\_family=yes\_no

Instruction excerpt:  
(no instruction text found)



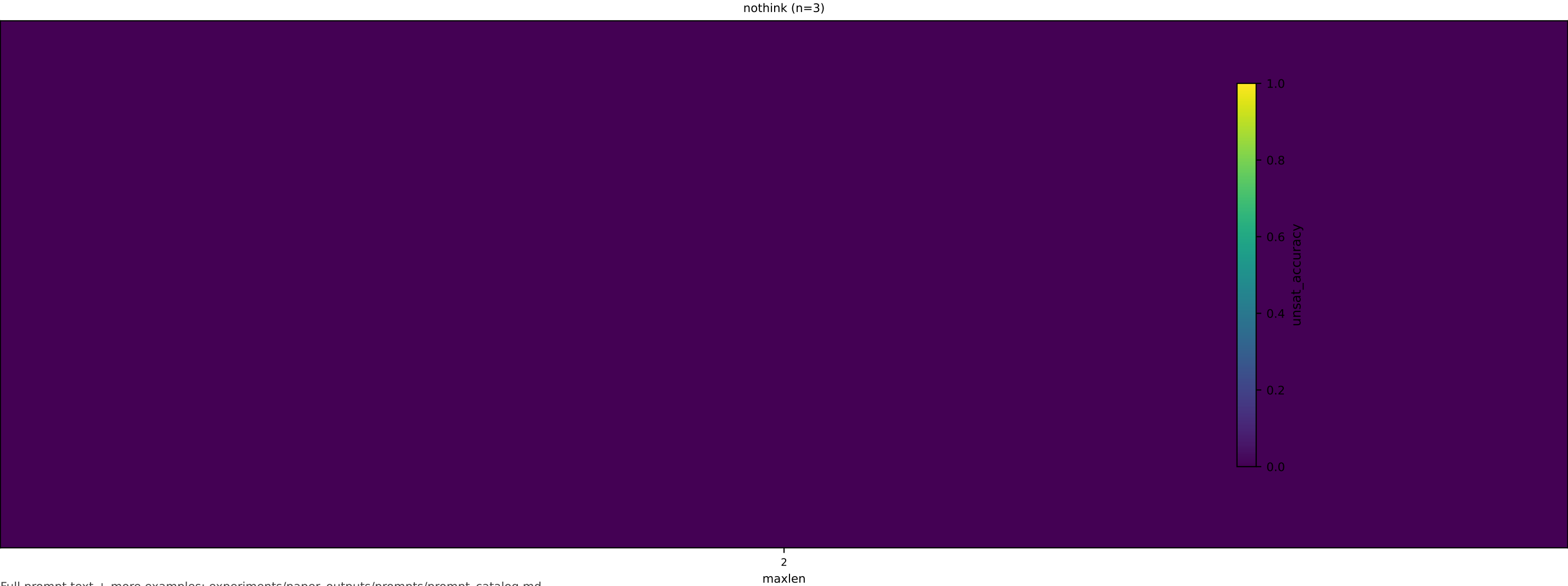
prompt\_template= | parse\_family=yes\_no

Instruction excerpt:  
(no instruction text found)



prompt\_template= | parse\_family=yes\_no

Instruction excerpt:  
(no instruction text found)



openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_7b28aa32dc (horn\_if\_then)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

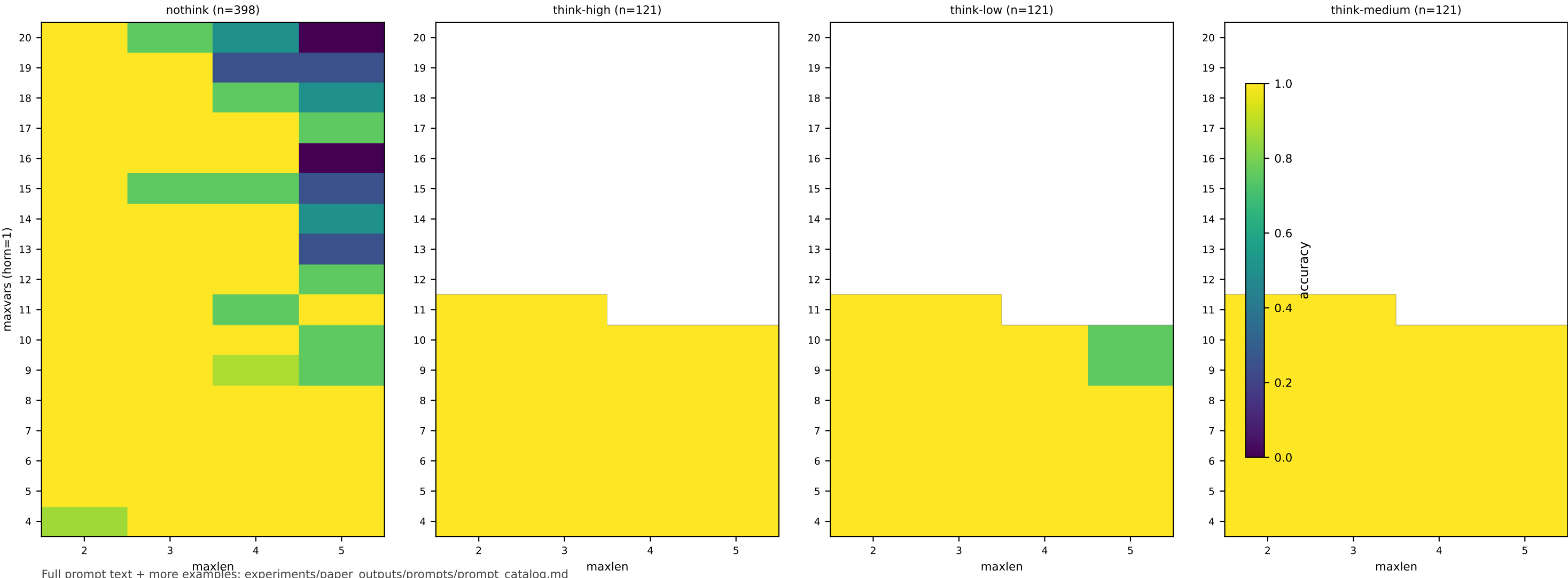
Horn answer rule

- Output ONLY a single final word: "yes" if p0 is derivable, otherwise "no". Do not output any other words.

...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_7b28aa32dc (horn\_if\_then)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

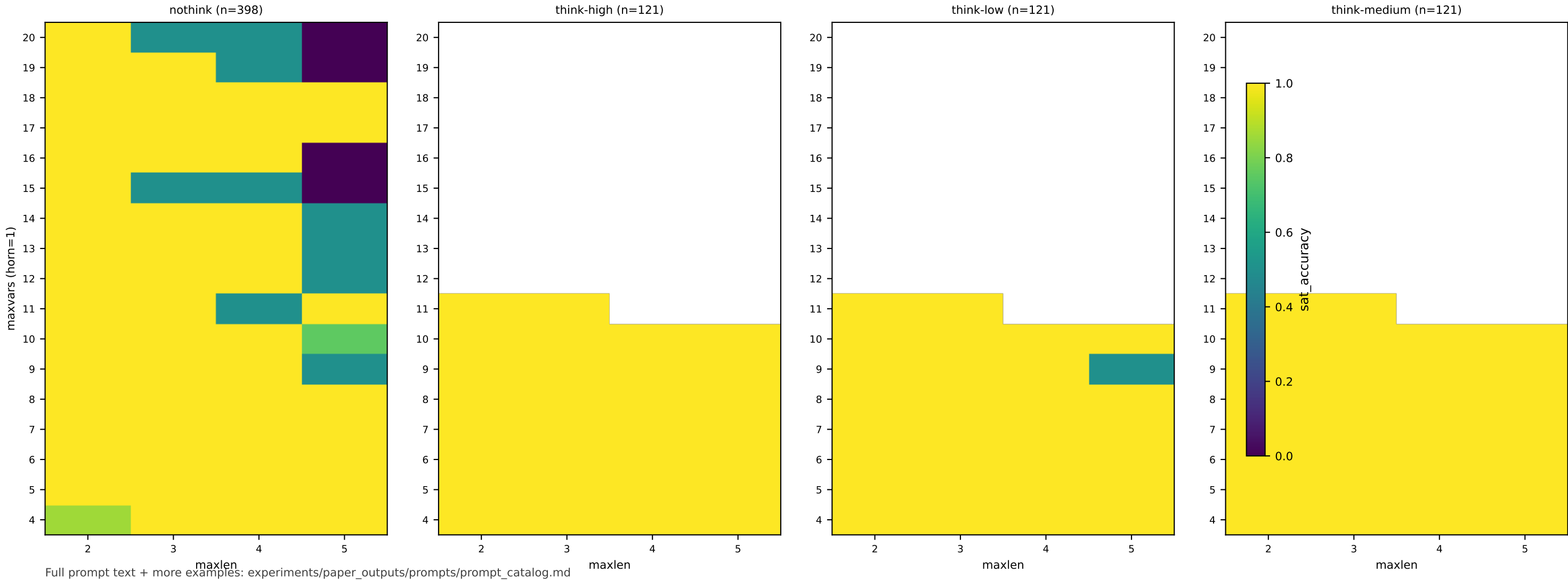
Horn answer rule

- Output ONLY a single final word: "yes" if p0 is derivable, otherwise "no". Do not output any other words.

...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_7b28aa32dc (horn\_if\_then\_prompt (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

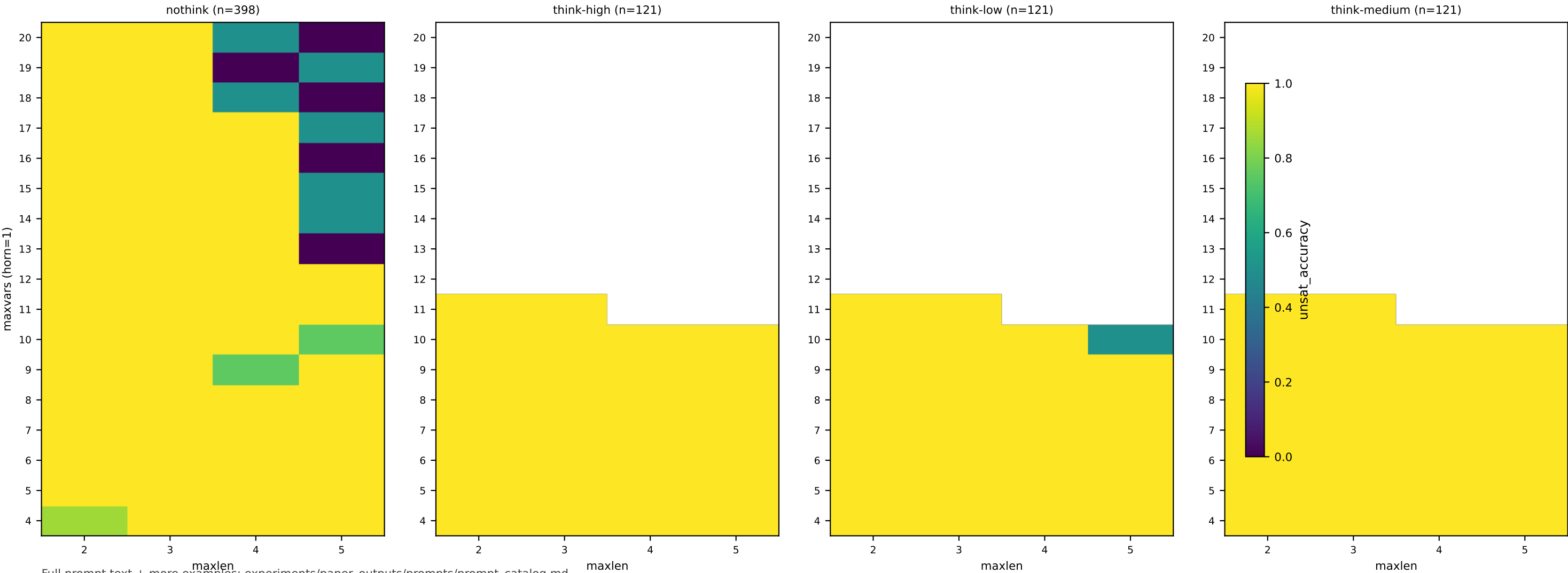
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Horn answer rule

- Output ONLY a single final word: "yes" if p0 is derivable, otherwise "no". Do not output any other words.

...

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```





openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_c012d6f2e6 (cnf\_v2)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

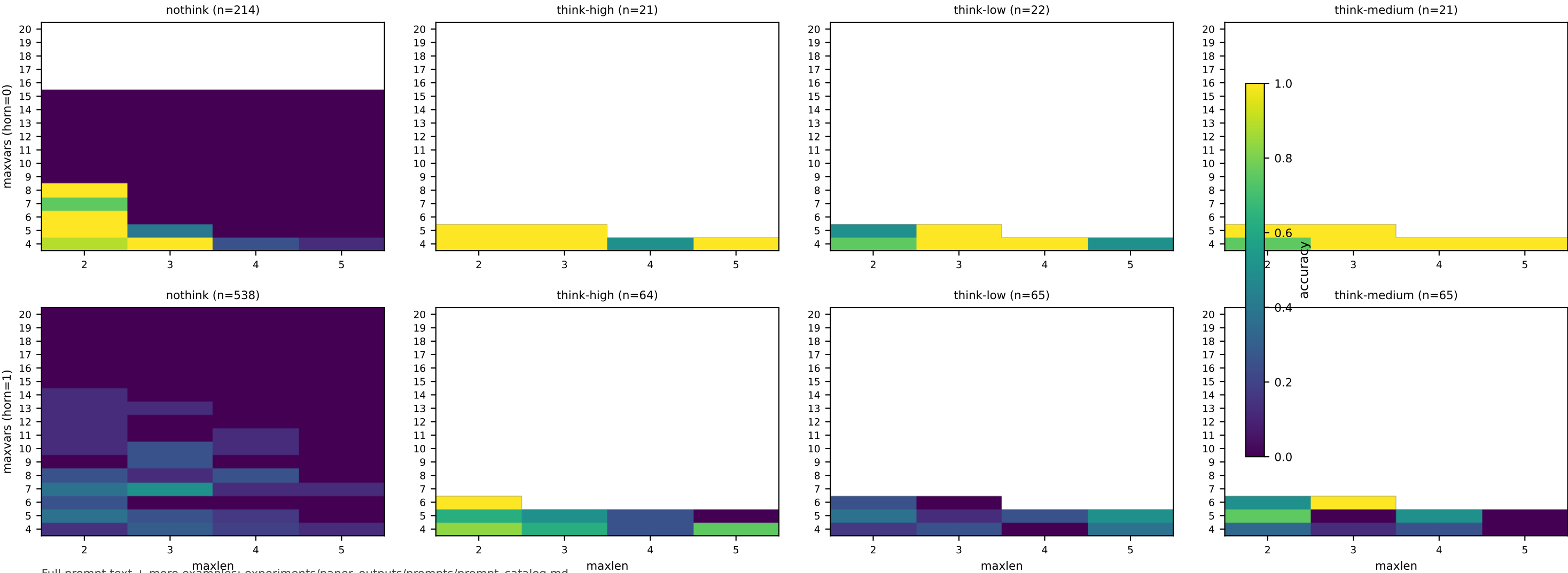
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
not(p4).
p2.
not(p3) or p1.
not(p3) or p4.
not(p2) or p1.
```



openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_c012d6f2e6 (cnf\_v2)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

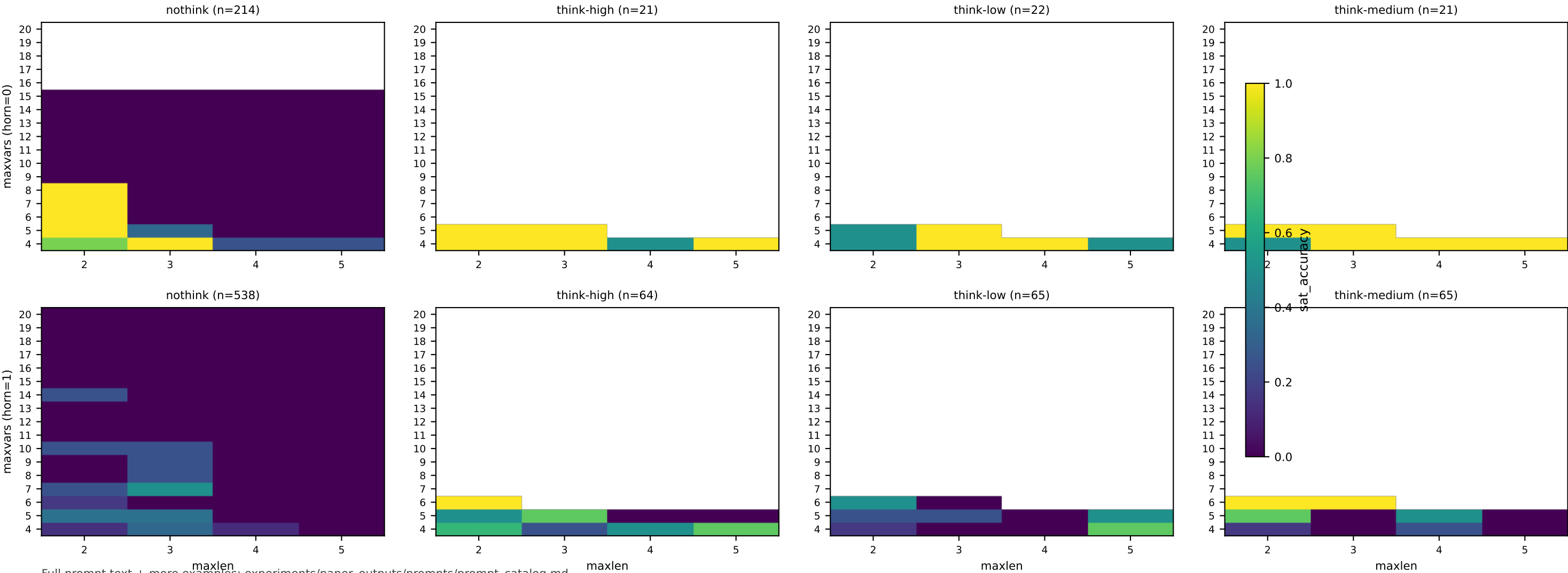
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
not(p4).
p2.
not(p3) or p1.
not(p3) or p4.
not(p2) or p1.
```



openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_c012d6f2e6 (cnf\_v2) Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=contradiction

Instruction excerpt:

Your task is to solve a propositional logic problem.

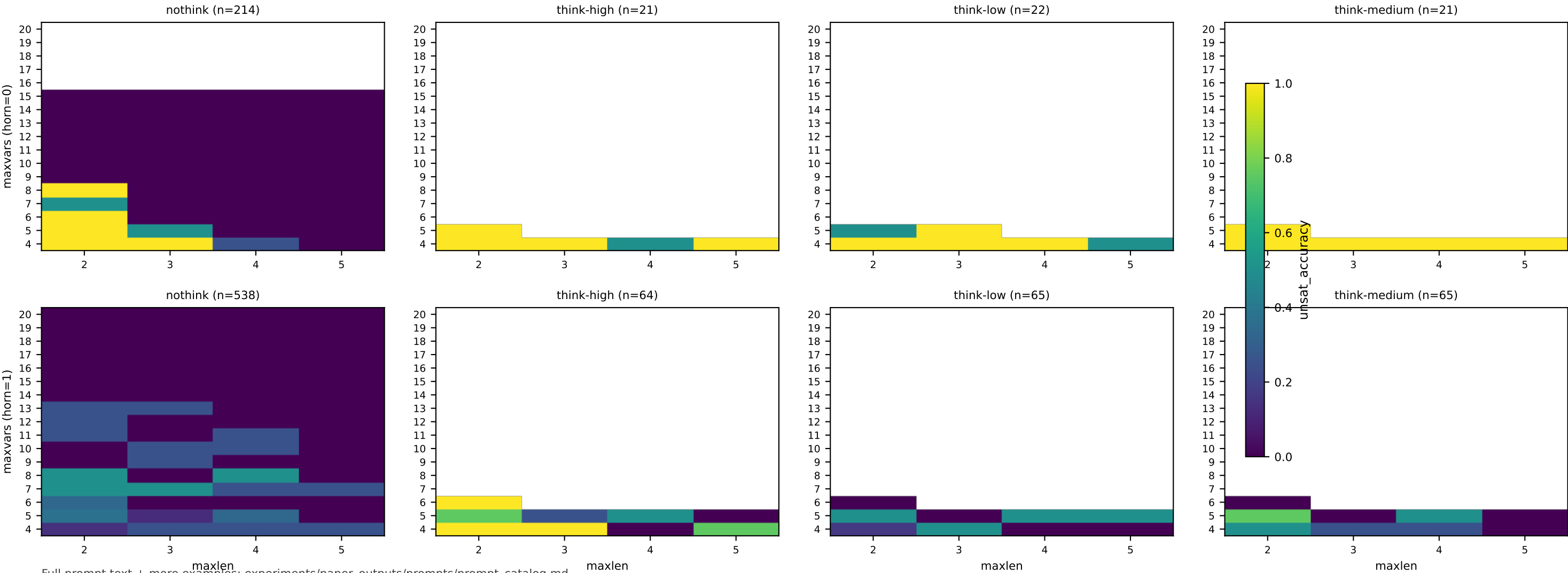
Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

```
not(p4).
p2.
not(p3) or p1.
not(p3) or p4.
not(p2) or p1.
```



openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_c1b2be97aa (horn\_if\_then)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

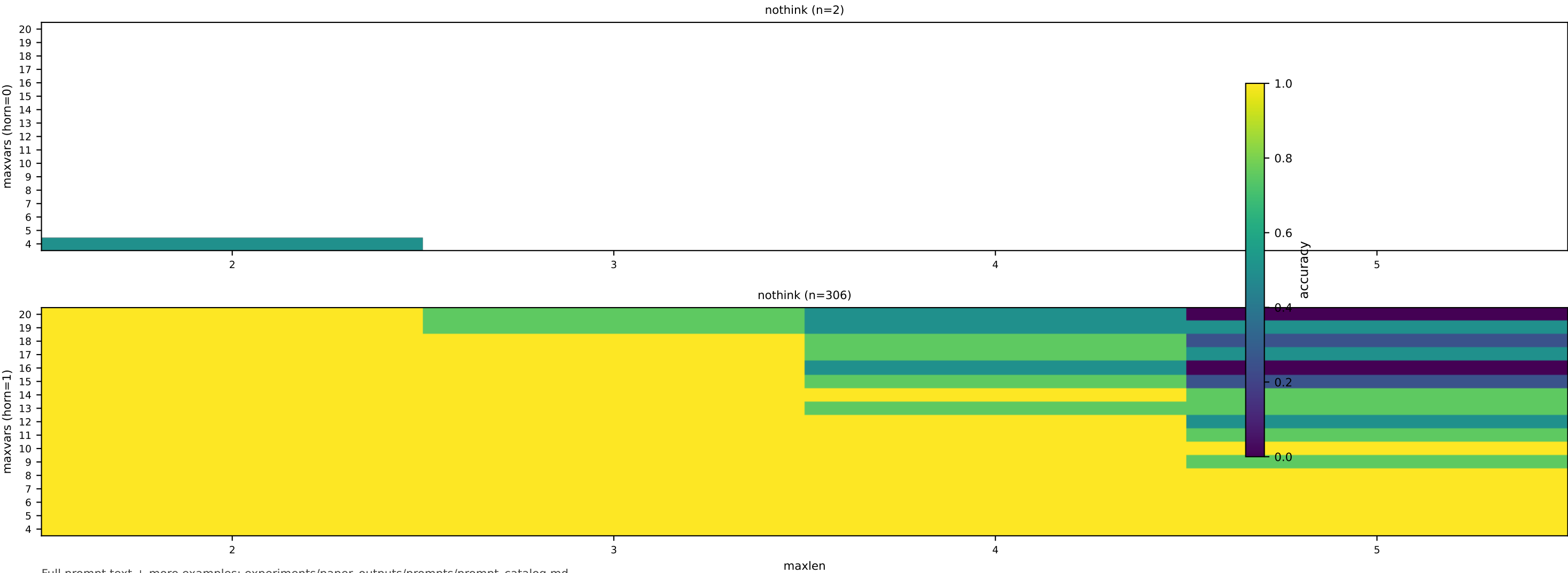
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.



openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_c1b2be97aa (horn\_if\_then)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

Choose the appropriate interpretation based on how the statements are rendered below.

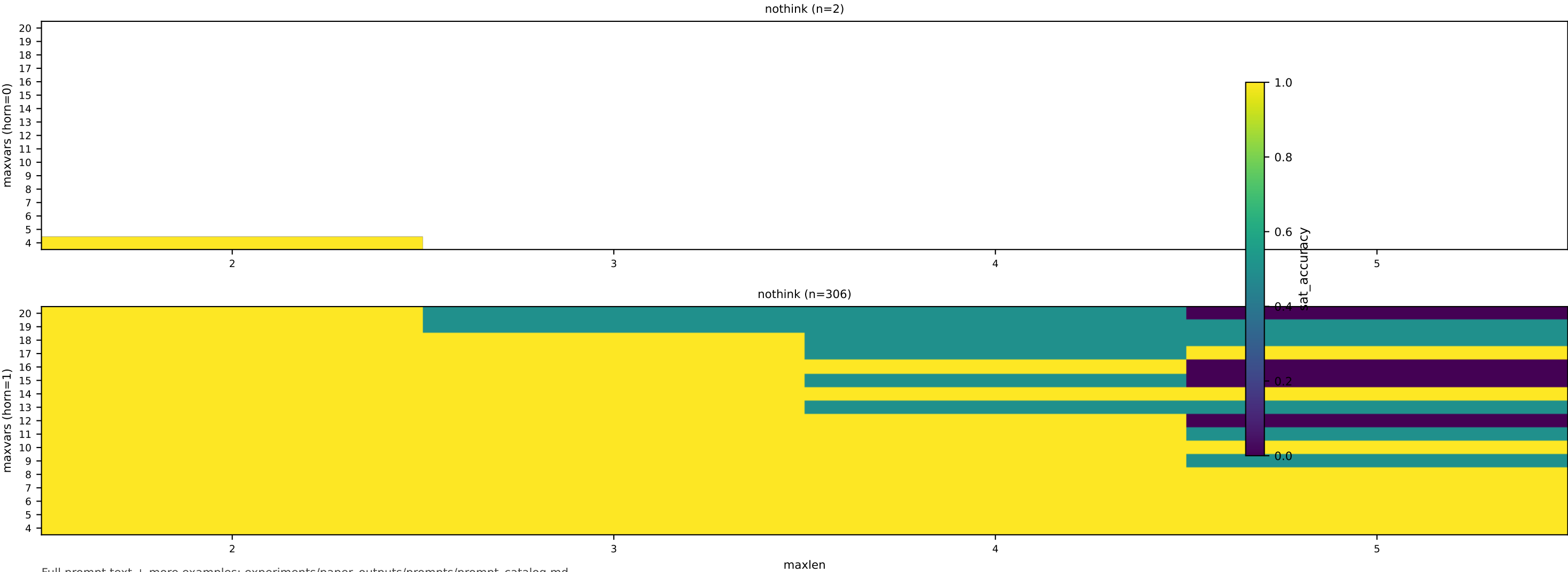
- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

Example (horn=1, low, maxvars=4, maxlen=2, satflag=1)

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_c1b2be97aa (horn\_if\_then\_prompt (horn=1, low, maxvars=4, maxlen=2, satflag=1)

prompt\_template=prompts/\_template\_unified.j2 | parse\_family=yes\_no

Instruction excerpt:

Your task is to solve a propositional logic problem.

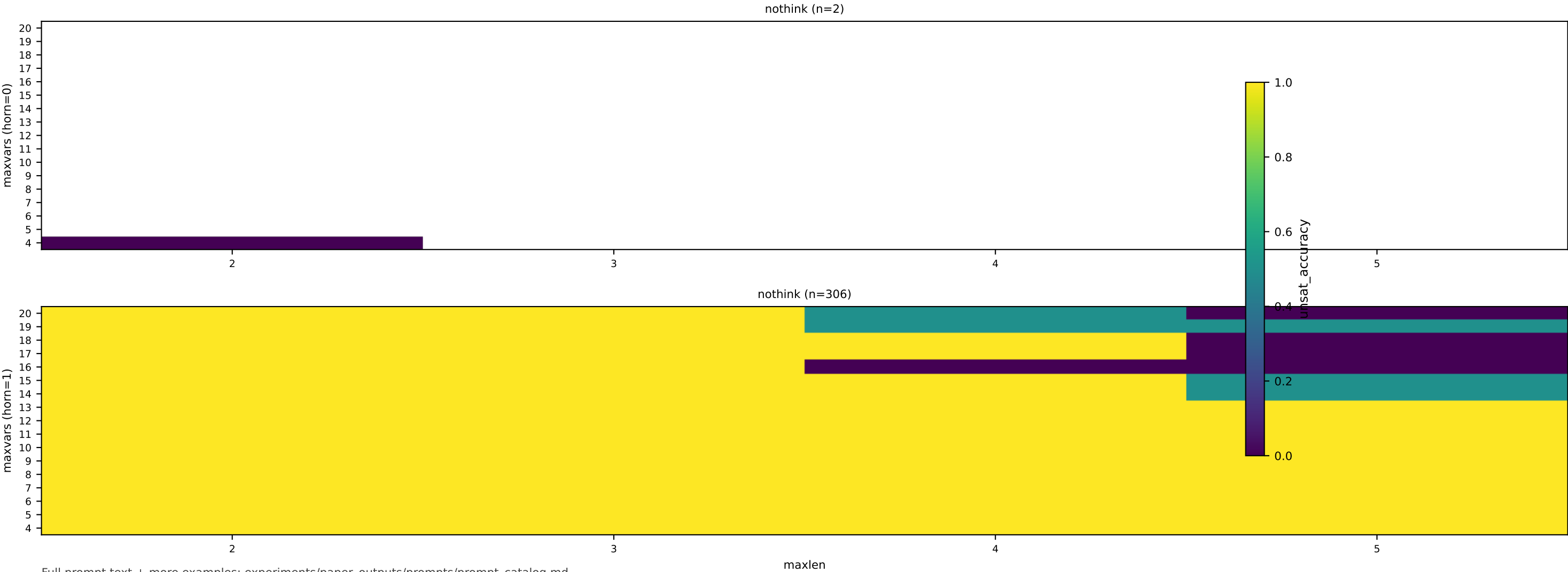
Choose the appropriate interpretation based on how the statements are rendered below.

- If you see facts like "p1." and rules like "if p2 and p3 then p4.", treat them as Horn facts and implications, and determine whether p0 can be derived.
- If you see disjunctions like "p1 is true or p2 is false." or compact forms like "p1 or not(p2).", treat them as CNF clauses, and determine whether the set is a contradiction (unsatisfiable) or satisfiable.

Conventions

- Propositional variables are written as pN, where N is a number.
- All statements are jointly assumed true (conjoined).
- ...

```
if p4 then p0.  
p2.  
if p3 then p1.  
if p3 then p4.  
if p2 then p1.
```



openai/gpt-5-nano-2025-08-07 — accuracy — prompt\_c6875730a1 (horn\_if\_then)

prompt\_template=prompts/exp6\_horn\_yesno.j2 | parse\_family=yes\_no

Instruction excerpt:

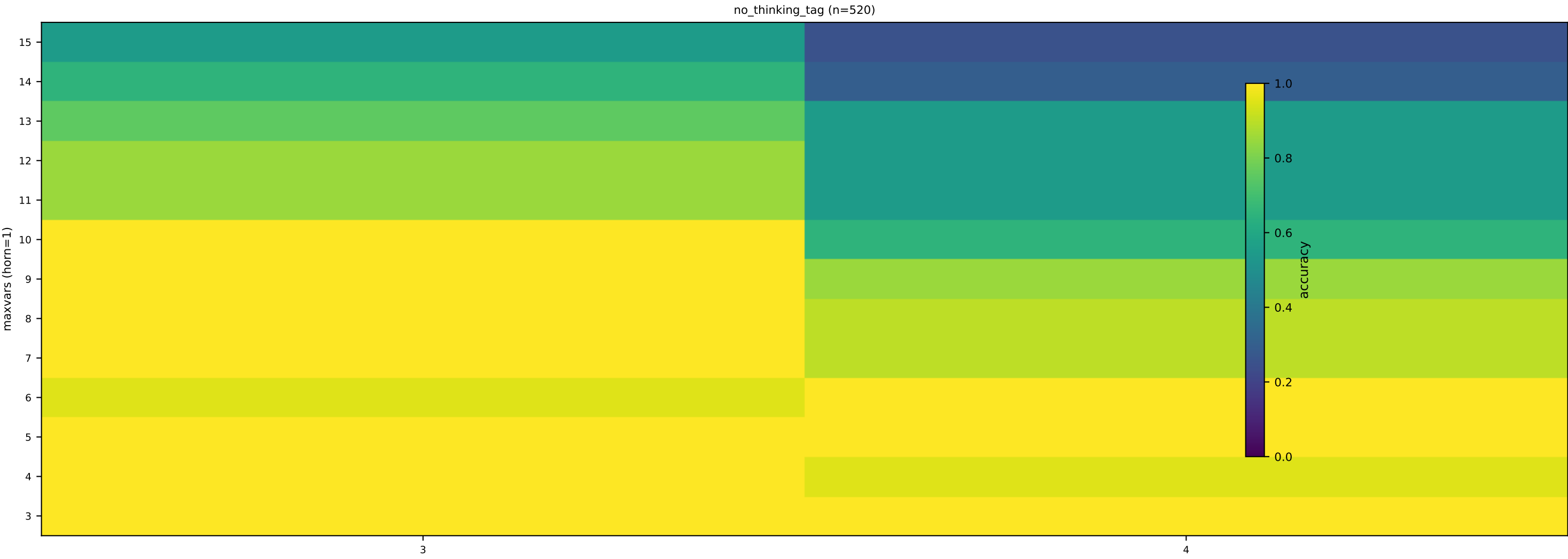
Your task is to solve a problem in propositional logic containing both facts and if-then rules. You will get a list of facts and if-then rules and have to determine whether a fact p0 can be derived from this list. If a fact p0 can be derived, the last word of your answer should be 'yes', otherwise the last word should be 'no'.

Facts are represented as 'pN' where N is a number. All the statements are either facts or if-then rules allowing to derive a single fact. All the given statements are implicitly connected with 'and': they are all claimed to be true.

...

Example (horn=1, low, maxvars=3, maxlen=3, satflag=1)

p1. p2. if p1 then p0. Answer: yes.  
Example 2. Statements: p1. p2. if p1 then p9. Answer: no.  
Example 3. Statements: p1. if p1 then p2. if p2 then p0. Answer: yes.  
Example 4. Statements: p1. if p1 then p3. if p2 and p1 then p0. Answer: no.  
Example 5. Statements: p1. if p1 then p2. if p2 then p3. if p3 then p0. Answer: yes.  
Example 6. Statements: p1. if p1 then p2. if p2 then p1. if p3 then p0. Answer: no.  
Example 7. Statements: p1. p3. if p1 then p2. if p2 and p3 then p4. if p4 then p0. Answer: yes.  
Example 8. Statements: p1. if p1 then p2. if p2 and p3 then p4. if p4 then p0. Answer: no.  
Example 9. Statements: p6. p3. if p3 then p1. if p3 then p1. if p4 and p5 ...

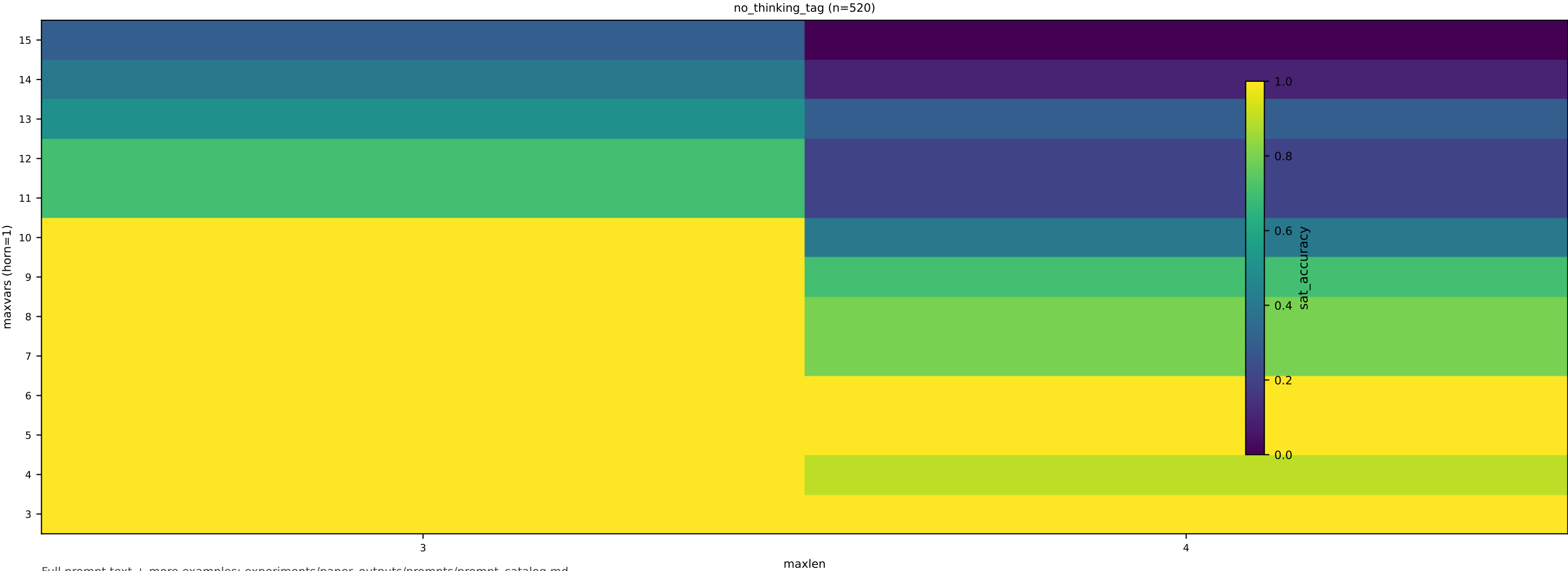


openai/gpt-5-nano-2025-08-07 — sat\_accuracy — prompt\_c6875730a1 (horn\_if\_then)

prompt\_template=prompts/exp6\_horn\_yesno.j2 | parse\_family=yes\_no

**Instruction excerpt:**  
Your task is to solve a problem in propositional logic containing both facts and if-then rules.  
You will get a list of facts and if-then rules and have to determine whether a fact p0 can be derived from this list.  
If a fact p0 can be derived, the last word of your answer should be 'yes', otherwise the last word should be 'no'.  
  
Facts are represented as 'pN' where N is a number.  
All the statements are either facts or if-then rules allowing to derive a single fact.  
All the given statements are implicitly connected with 'and': they are all claimed to be true.  
  
...

**Example (horn=1, low, maxvars=3, maxlen=3, satflag=1)**  
p1. p2. if p1 then p0. Answer: yes.  
Example 2. Statements: p1. p2. if p1 then p2. if p2 then p0. Answer: no.  
Example 3. Statements: p1. if p1 then p2. if p2 then p0. Answer: yes.  
Example 4. Statements: p1. if p1 then p3. if p2 and p1 then p0. Answer: no.  
Example 5. Statements: p1. if p1 then p2. if p2 then p3. if p3 then p0. Answer: yes.  
Example 6. Statements: p1. if p1 then p2. if p2 then p1. if p3 then p0. Answer: no.  
Example 7. Statements: p1. p3. if p1 then p2. if p2 and p3 then p4. if p4 then p0. Answer: yes.  
Example 8. Statements: p1. if p1 then p2. if p2 and p3 then p4. if p4 then p0. Answer: no.  
Example 9. Statements: p6. p3. if p3 then p1. if p3 then p1. if p4 and p5 ...





openai/gpt-5-nano-2025-08-07 — unsat\_accuracy — prompt\_c6875730a1 (horn\_if\_then) — prompt\_template (horn=1, low, maxvars=3, maxlen=3, satflag=1)

prompt\_template=prompts/exp6\_horn\_yesno.j2 | parse\_family=yes\_no

**Instruction excerpt:**  
Your task is to solve a problem in propositional logic containing both facts and if-then rules.  
You will get a list of facts and if-then rules and have to determine whether a fact p0 can be derived from this list.  
If a fact p0 can be derived, the last word of your answer should be 'yes', otherwise the last word should be 'no'.

Facts are represented as 'pN' where N is a number.  
All the statements are either facts or if-then rules allowing to derive a single fact.  
All the given statements are implicitly connected with 'and': they are all claimed to be true.

...

p1. p2. if p1 then p0. Answer: yes.  
Example 2. Statements: p1. p2. if p1 then p9. Answer: no.  
Example 3. Statements: p1. if p1 then p2. if p2 then p0. Answer: yes.  
Example 4. Statements: p1. if p1 then p3. if p2 and p1 then p0. Answer: no.  
Example 5. Statements: p1. if p1 then p2. if p2 then p3. if p3 then p0. Answer: yes.  
Example 6. Statements: p1. if p1 then p2. if p2 then p1. if p3 then p0. Answer: no.  
Example 7. Statements: p1. p3. if p1 then p2. if p2 and p3 then p4. if p4 then p0. Answer: yes.  
Example 8. Statements: p1. if p1 then p2. if p2 and p3 then p4. if p4 then p0. Answer: no.  
Example 9. Statements: p6. p3. if p3 then p1. if p3 then p1. if p4 and p5 ...

