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### Quantifiers in TIME and SPACE : computational complexity of generalized quantifiers in natural language

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## Appendix A

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# English Version of the Test from Chapter 6

### FIRST TEST

**Instruction:** Over the next pages you will find 20 tasks. Each task represents some inference. Your aim is to decide whether this inference is valid.

In other words, each task consists of 2 sentences with a horizontal line between them. You must decide whether a sentence above the line implies a sentence below the line.

If you think that inference pattern is valid (second sentence is implied by the first one) encircle: "VALID", otherwise encircle: "NOT VALID".

**Example 1:**

At least 5 mells are stads.  
-----  
At least 3 mells are stads.

VALID

NOT VALID

**Example 2:**

At most 5 blickets are frobs.  
-----  
At most 3 blickets are frobs.

VALID

NOT VALID

More than 6 fleems are tulvers.	
<hr/>	
More than 5 fleems are tulvers.	
VALID	NOT VALID

More than 12 fleems and more than 13 coodles hate each other.	
<hr/>	
More than 13 coodles and more than 12 fleems hate each other.	
VALID	NOT VALID

More than 16 stads and more than 9 blickets hate each other.	
<hr/>	
More than 9 blickets and more than 16 stads hate each other.	
VALID	NOT VALID

More than 16 mells and more than 25 blickets hate each other.	
<hr/>	
More than 25 blickets and more than 16 mells hate each other.	
VALID	NOT VALID

More than 10 mells are fleems.	
<hr/>	
More than 11 mells are fleems.	
VALID	NOT VALID

More than 9 frobs and more than 8 coodles hate each other.	
More than 8 coodles and more than 9 frobs hate each other.	
VALID	NOT VALID

More than 20 wozzles and more than 35 fitches hate each other.	
More than 20 fitches and more than 35 wozzles hate each other.	
VALID	NOT VALID

All wozzles are fleems.	
All fleems are wozzles.	
VALID	NOT VALID

More than 100 wozzles and more than 150 stads hate each other.	
More than 150 stads and more than 100 wozzles hate each other.	
VALID	NOT VALID

More than 105 wozzles and more than 68 coodles hate each other.	
More than 68 wozzles and more than 105 coodles hate each other.	
VALID	NOT VALID

More than 6 doffs and more than 5 fitches hate each other.

---

More than 5 fitches and more than 6 doffs hate each other.

VALID

NOT VALID

More than 47 stads and more than 55 tannins hate each other.

---

More than 47 tannins and more than 55 stads hate each other.

VALID

NOT VALID

More than 58 frobs and more than 49 tannins hate each other.

---

More than 49 frobs and more than 58 tannins hate each other.

VALID

NOT VALID

More than 7 coodles and more than 6 doffs hate each other.

---

More than 6 doffs and more than 7 coodles hate each other.

VALID

NOT VALID

Some tulvers are mells.

---

Some mells are tulvers.

VALID

NOT VALID

More than 99 coodles and more than 68 tulvers hate each other.

---

More than 68 tulvers and more than 99 coodles hate each other.

VALID

NOT VALID

More than 7 tannins and more than 8 fitches hate each other.

---

More than 8 fitches and more than 7 tannins hate each other.

VALID

NOT VALID

More than 19 frobs and more than 11 fleems hate each other.

---

More than 11 fleems and more than 19 frobs hate each other.

VALID

NOT VALID

More than 159 stads and more than 25 fitches hate each other.

---

More than 159 fitches and more than 25 stads hate each other.

VALID

NOT VALID

More than 8 frobs and more than 27 doffs hate each other.

---

More than 27 frobs and more than 8 doffs hate each other.

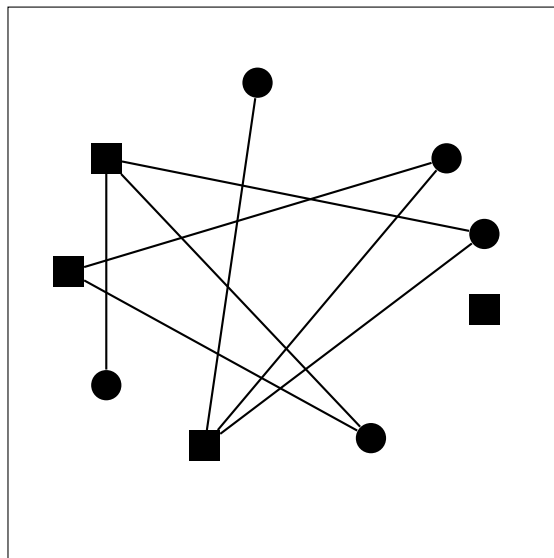
VALID

NOT VALID

**SECOND TEST**

**Instruction:** Over the next few pages you will find 9 tasks to solve. Each task consists of a picture. Above every picture there is exactly one sentence. Encircle TRUE if and only if the sentence is a true description of the picture. Otherwise, encircle FALSE.

More than 1 square and more than 2 circles are connected by lines.

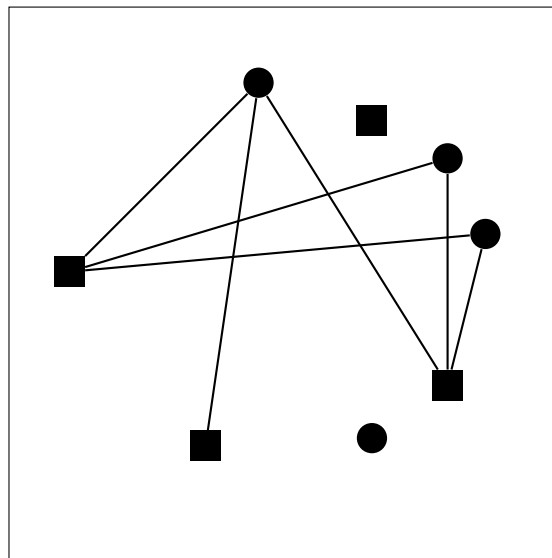


TRUE

FALSE



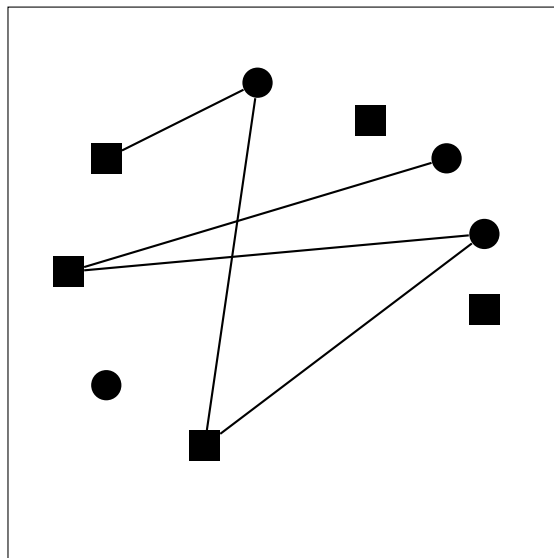
More than 3 circles and more than 2 squares are connected by lines.



TRUE

FALSE

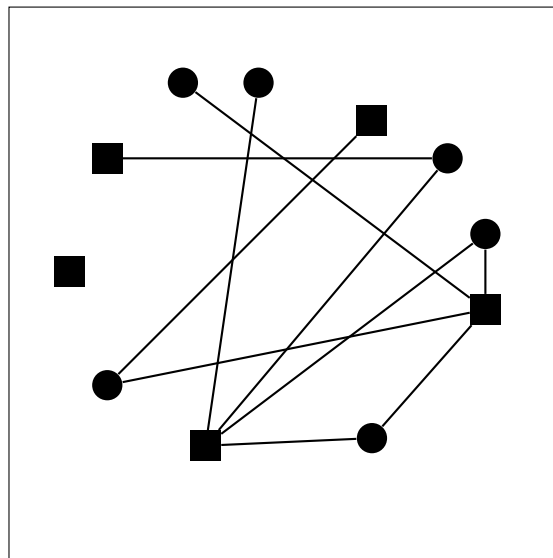
More than 1 square and more than 1 circle are connected by lines.



TRUE

FALSE

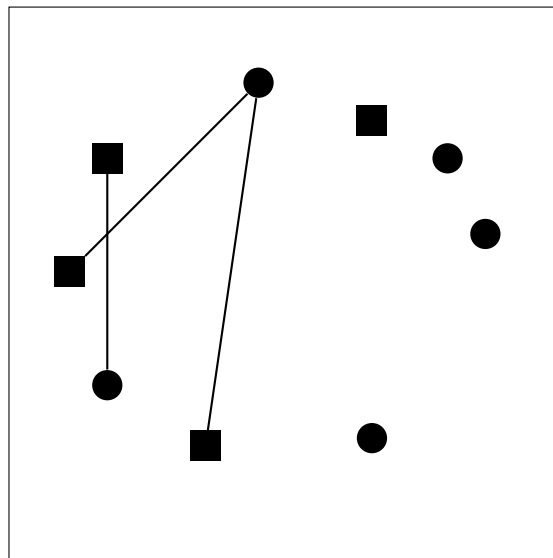
More than 3 circles and more than 1 square are connected by lines.



TRUE

FALSE

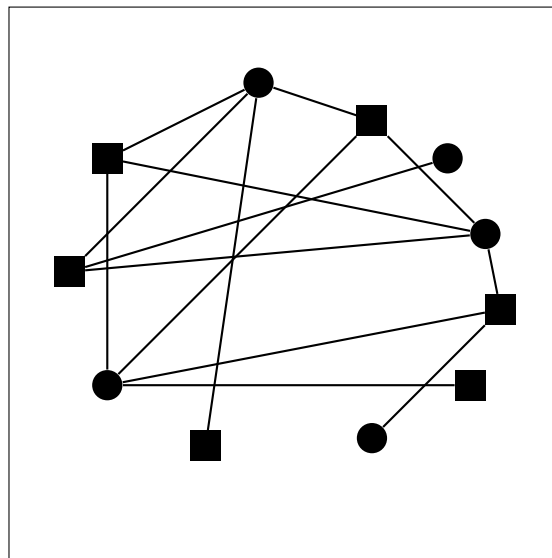
More than 3 circles and more than 3 squares are connected by lines.



TRUE

FALSE

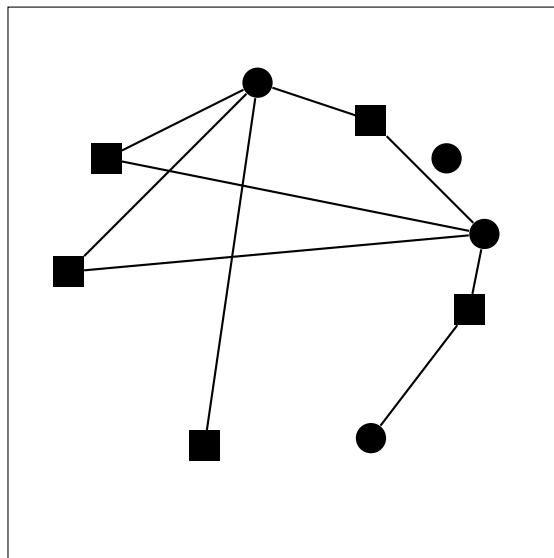
More than 2 circles and more than 3 squares are connected by lines.



TRUE

FALSE

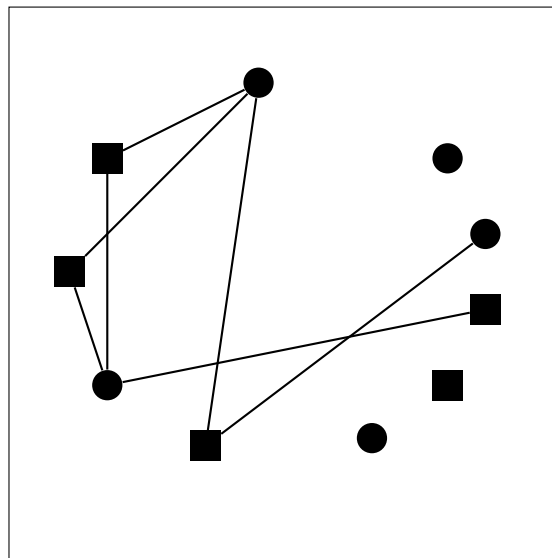
More than 1 circle and more than 3 squares are connected by lines.



TRUE

FALSE

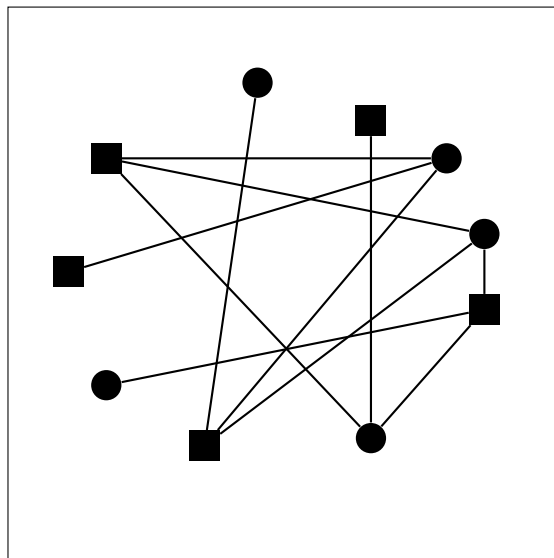
More than 2 squares and more than 1 circle are connected by lines.



TRUE

FALSE

More than 2 circles and more than 2 squares are connected by lines.



TRUE

FALSE