





Who said food  
keeps us alive?  
Tom died a few  
days ago and  
he was not  
short of good  
food.

**Juan:** "How do you think you'll do on our philosophy exam tomorrow?"

**Monique:** "Great, I read all the books."

**Juan:** "Yeah but do you understand this stuff?"

**Monique:** "I said I read all the books, didn't I?"

Don't let all the talk about the need of exercise to a long life mislead you. Jim was a runner all his very short life.





I don't know why the car won't run; I just filled the petrol tank.

My English teacher told me successful people have extensive vocabularies. So, I've tried to learn a new vocabulary word every day since then. I should be a successful person soon.



**24 September 2024**

**The nature of definition**

**What does the  
word 'yellow' mean?**

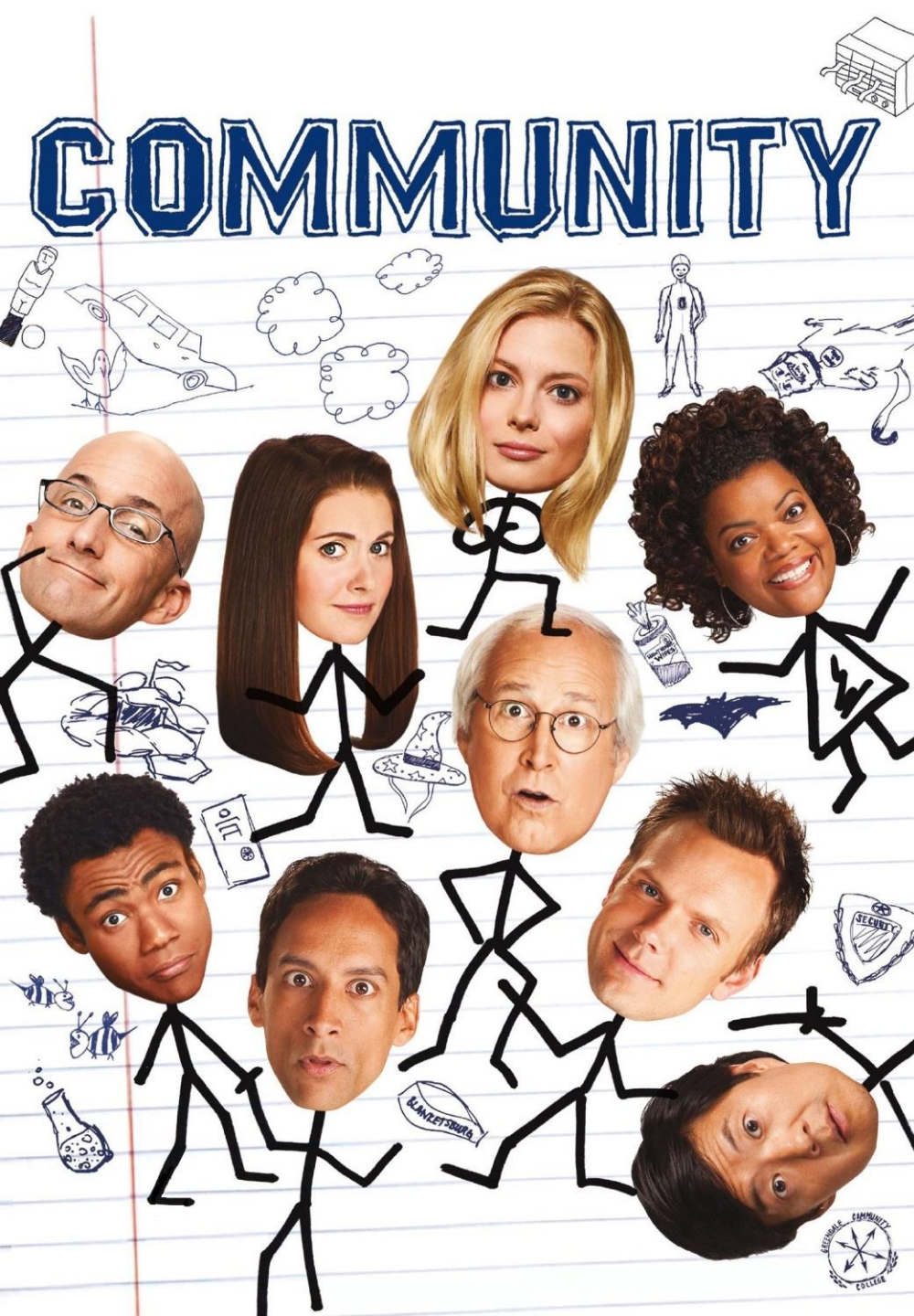
Are these the  
same questions?

**What is yellow?**



Type of definition	Definition
Logical	"Yellow is...
Tautological	"Yellow is...
Negative	"Yellow is not...
Ostensive	" ...
Family resemblances	"Yellow is...
Normative definition	"A school is...
Descriptive definition	"A school is...
Necessary and sufficient conditions	"Yellow is <a href="https://htmlcolorcodes.com/colors/yellow/">https://htmlcolorcodes.com/colors/yellow/</a>

# COMMUNITY



Define the word community in each of these ways...

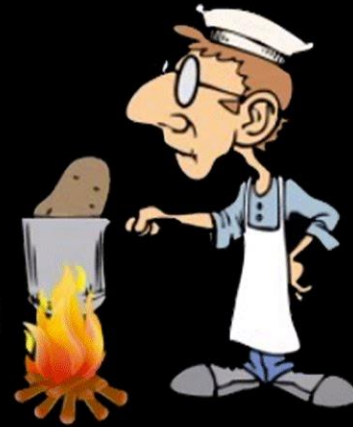
**What is the  
difference  
between a  
necessary  
and a  
sufficient  
condition?**



**24 September 2024**

**Necessary and sufficient conditions**

# NECESSARY AND SUFFICIENT CONDITIONS



**Philosophy is  
the ongoing  
search for...**



**A necessary  
condition is...**



- 'I've got fresh water so I'll survive'



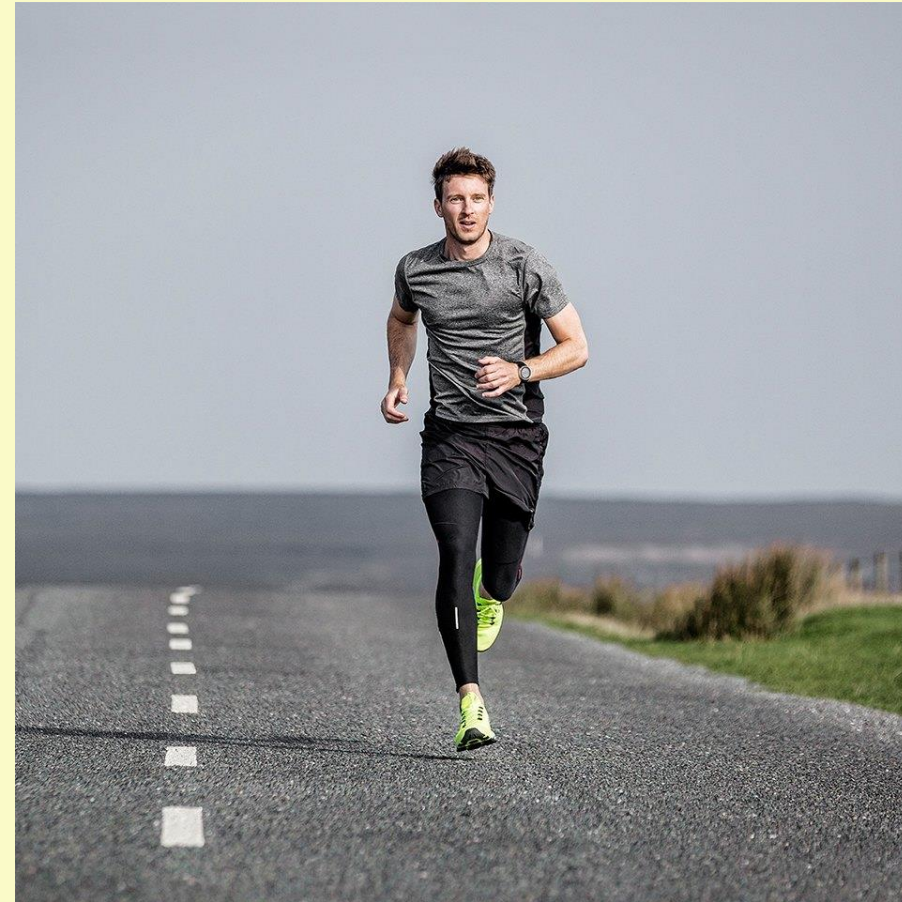


- I've been to sixth form so I'll get into university



List three  
necessary  
conditions of  
being  
president of  
the USA

List three  
necessary  
conditions of  
being a runner



**A is a necessary  
condition of B if**

**not-A**

**entails**

**not-B**

Are these  
necessary  
conditions  
of being  
tall?



mountain



giant

Are these  
necessary  
conditions of  
food being  
cooked?



Being baked



Being boiled



**What are  
either  
being  
baked or  
being  
boiled  
sufficient  
for?**



**A sufficient  
condition is...**



**A is a sufficient  
condition of B if**

**A**

**entails**

**B**



**List one  
sufficient  
condition of a  
path  
(sidewalk)  
being wet**

**List two (or three) different sufficient conditions of being a parent**



<https://www.youtube.com/watch?v=QtMFyTV8jfg> minute 1 only

[https://www.youtube.com/watch?v=fq\\_DwgmIadw&t=2s](https://www.youtube.com/watch?v=fq_DwgmIadw&t=2s) whole clip

Explain the difference  
between a necessary and a  
sufficient condition.

# Is a necessary condition the same as a sufficient condition?

- Of course not!
- Air is **one** necessary condition of human life...
- ...but...

# If something is sufficient, then is it necessary?

- Again, not always!
- Being a square  $\rightarrow$  sufficient for being four-sided
- But...

# A complete set of necessary conditions can be jointly sufficient

- What are jointly necessary conditions of a square?



- $x$  has (exactly) four sides
- $x$  is a closed figure and is in a plane
- each side is straight, equal in length and joined at their ends
- each of  $x$ 's angles is equal to the others

**Now add to your  
explanation of the  
difference between a  
necessary and a  
sufficient condition**

**Causal fallacy -**  
thinking a  
necessary  
condition is also  
sufficient

**Extra material**

**A** is a necessary  
condition for **B** if

**falsity of A** entails  
**the falsity of B**

## Necessary condition

So, air (A) is a  
necessary condition  
for life (B), because...

If there's **no** air  
then there **no** life (B)

If this argument  
works...

(P1) Not A  
(C) Therefore not B

Then A is a necessary  
condition of B



- Something,  $C$ , is a diamond.
- What does being  $C$ , a diamond, entail or guarantee?



# So, is...



- 1. being a pen a necessary condition of being a writing implement?
- 2. being a writing implement a necessary condition of being a pencil?

# So, is...



- 1. being a baked a necessary condition of being cooked?
- 2. being cooked a necessary condition of being a baked?



- What is a necessary condition of something being a square?

**Sufficient  
conditions**



- Something, **C**, is a mother.
- What does being **C**, a mother, entail or guarantee?



- Something,  $C$ , is a square.
- What does being a square entail or guarantee?

## Sufficient condition

**C** is a sufficient  
condition of **D** if

the truth of **C** entails  
the truth of **D**

So, being a square  
(A) is a sufficient  
condition for being  
four-sided, (B),  
because...



If this argument  
works...

(P1) A

(C) Therefore B

Then **A** is a sufficient  
condition of **B**

# So, is...

- 1. being a pen a sufficient condition of being a writing implement?
- 2. being a writing implement a sufficient condition of being a pencil?



# So, is...



- 1. being cooked a sufficient condition of being a **baked**?
- 2. being **baked** a sufficient condition of being a **cooked**?