## Predicates

## Predicates

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects)

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects) and returns as output a truth value.

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects) and returns as output a truth value.

Example.

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects) and returns as output a truth value.

Example.
(1) "Alice and Bob are siblings."

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects) and returns as output a truth value.

Example.
(1) "Alice and Bob are siblings."

- Subject: (Alice, Bob).


## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects) and returns as output a truth value.

Example.
(1) "Alice and Bob are siblings."
© Subject: (Alice, Bob).
(2) 2-variable Predicate: $(S(x, y))$ "are siblings".

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects) and returns as output a truth value.

Example.
(1) "Alice and Bob are siblings."
© Subject: (Alice, Bob).
(2) 2-variable Predicate: $(S(x, y))$ "are siblings".

## Predicates

In grammar, a predicate is the part of a sentence containing a verb and stating something about the subject.
We will view a predicate as a function which accepts as input a subject (or subjects) and returns as output a truth value.

Example.
(1) "Alice and Bob are siblings."
© Subject: (Alice, Bob).
(2) 2-variable Predicate: $(S(x, y))$ "are siblings".


## Examples of predicates

## Examples of predicates

(1) $P(x, y): x<y$.

## Examples of predicates

(1) $P(x, y): x<y$.

## Examples of predicates

(1) $P(x, y): x<y$.
(2) $Q(x, y, z): x^{2}+y^{2}=z^{2}$.

## Examples of predicates

(1) $P(x, y): x<y$.
(2) $Q(x, y, z): x^{2}+y^{2}=z^{2}$.
(3) $R(k, \ell)$ : Line $k$ and line $\ell$ are parallel.

## Examples of predicates

(1) $P(x, y): x<y$.
(2) $Q(x, y, z): x^{2}+y^{2}=z^{2}$.
(3) $R(k, \ell)$ : Line $k$ and line $\ell$ are parallel.
(9) $S(x, y): \quad x$ and $y$ are siblings.

## Examples of predicates

(1) $P(x, y): x<y$.
(2) $Q(x, y, z): x^{2}+y^{2}=z^{2}$.
(3) $R(k, \ell)$ : Line $k$ and line $\ell$ are parallel.
(c) $S(x, y): \quad x$ and $y$ are siblings.
(3) $T(x, y): x$ is older than $y$.

## Examples of predicates

(1) $P(x, y): x<y$.
(2) $Q(x, y, z): x^{2}+y^{2}=z^{2}$.
(3) $R(k, \ell)$ : Line $k$ and line $\ell$ are parallel.
(1) $S(x, y): x$ and $y$ are siblings.
(3) $T(x, y): x$ is older than $y$.
(6) $S(x, y) \wedge T(x, y): x$ and $y$ are siblings and $x$ is older than $y$.

